DVP-S3000

RMT-D100E/D100U

SERVICE MANUAL

US Model
Canadian Model
Chinese Model
Hong Kong Model
Singapore Model

Self Diagnostics Supported model

SPECIFICATIONS

CD/DVD player

Laser	**Semiconductor laser**
Signal format system	**NTSC** (US, Canadian) NTSC (for DVD and VIDEO CD) (Chinese, Hong Kong, Singapore) PAL (for VIDEO CD) (Chinese, Hong Kong, Singapore)

Audio characteristics

Frequency response	DVD (PCM): 2 Hz to 22 kHz (±0.5 dB) CD: 2 Hz to 20 kHz (±0.5 dB)
Signal-to-noise ratio	More than 107 dB
Harmonic distortion	Less than 0.0028 %
Dynamic range	More than 97 dB
Wow and flutter	Less than detected value (±0.001% W PEAK)

Outputs and inputs

	Jack type	Maximum output level	Load impedance
LINE OUT (AUDIO 1, 2)	Phono jacks	2 Vrms (at 50 kilohms)	Over 10 kilohms
DIGITAL OUT (OPTICAL)	Optical output connector	−18 dBm	Wave length: 660 nm
DIGITAL OUT (COAXIAL)	Phono jacks	0.5 Vp-p	75 ohms terminated
LINE OUT (VIDEO)	Phono jack	1.0 Vp-p	75 ohms, sync negative
S VIDEO OUT	4-pin mini DIN	Y: 1.0 Vp-p C: 0.286 Vp-p	75 ohms, sync negative 75 ohms terminated
S-LINK	Mini jack		

General

Power requirements	**120 V AC, 60 Hz** (US, Canadian) 220 to 240 V AC, 50 Hz (Chinese, Hong Kong, Singapore)
Power consumption	26 W
Dimensions (approx.)	**430 × 111 × 395 mm** **(17 × 4 3/8 × 15 5/8 in.) (w/h/d)** **incl. projecting parts**
Mass (approx.)	**6.0 kg (13 lb 4 oz)**
Operating temperature	**5 °C to 35 °C (41 °F to 95 °F)**
Operating humidity	**5 % to 90 %**

Supplied accessories

- Audio/video/S-link connecting cord (1) (US, Canadian)
- Audio/Video connecting cord (1)
  (Chinese, Hong Kong, Singapore)
- S video cable (1)
- Remote commander (remote) RMT-D100U (1) (US, Canadian)
- Remote commander (remote) RMT-D100E
  (Chinese, Hong Kong, Singapore)
- sony R6 (size AA) batteries (2)

Design and specifications are subject to change without notice.

DVD VIDEO COMPACT disc DIGITAL VIDEO **CD/DVD PLAYER**

MICROFILM

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
6. Check the B+ voltage to see it is at the values specified.
7. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

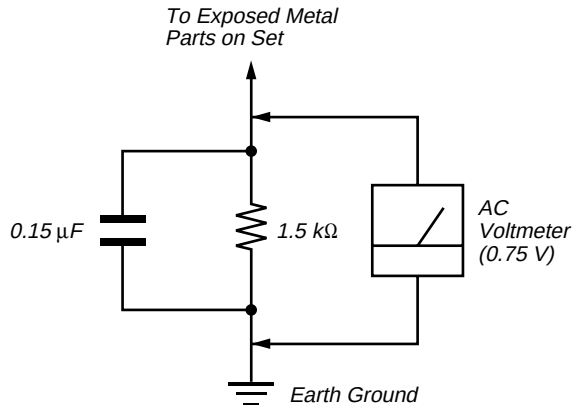

Fig. A Using AC voltmeter to check AC leakage

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 25 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

CAUTION:

The use of optical instrument with this product will increase eye hazard.

CAUTION

Use of controls or adjustments or performance procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COM- POSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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SERVICE NOTE

1. DISK REMOVAL PROCEDURE (at POWER OFF)

1) Insert a cross-tip screwdriver into a hole at the bottom, and rotate the cam gear ① in direction Ⓐ. (See Fig. 1)
   Note: To prevent a damege of cam gear, rotate it in direction Ⓐ by 1/4 turn.
2) Draw out the tray ② in direction Ⓑ by hand, and remove a disk. (See Fig. 1)

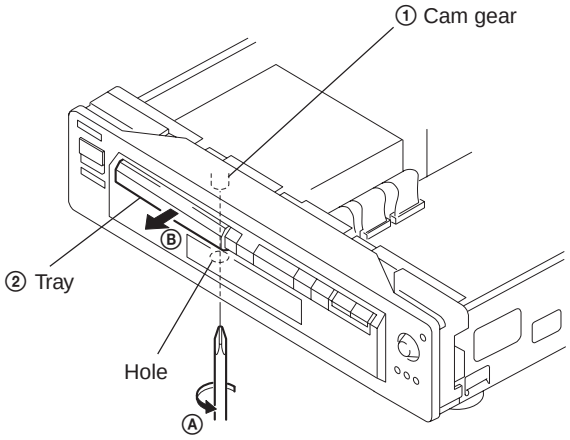


Fig. 1

2. HOW TO SERVICE AU-201, 203 AND MB-80 BOARDS

1) Remove the top case from the set. (Refer to 2-1)
2) Remove the AU-201, 203 board. (Refer to 2-3)
   Note: Do not disconnect wiring.
3) Remove the MB-80 board. (Refer to 2-4)
   Note: Do not disconnect wiring.
4) Erect MB-80 board on three circuit board holders. (See. Fig. 2)
5) Erect AU-201, 203 board on two claws. (See Fig. 2)

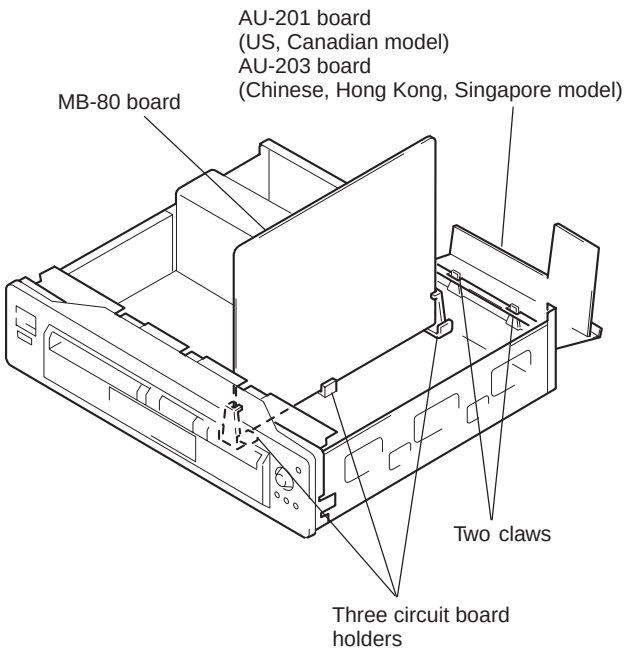


Fig. 2

3. HOW TO SERVICE THE MD BLOCK ASS'Y

1) Remove the top case from the main unit. (Refer to 2-1)
2) Remove the front panel. (Refer to 2-2)
   Note: Do not disconnect wiring.
3) Remove the MD block ass'y. (Refer to 2-5)
4) Remove the MD upper cover, and mount as shown in Fig. 3.

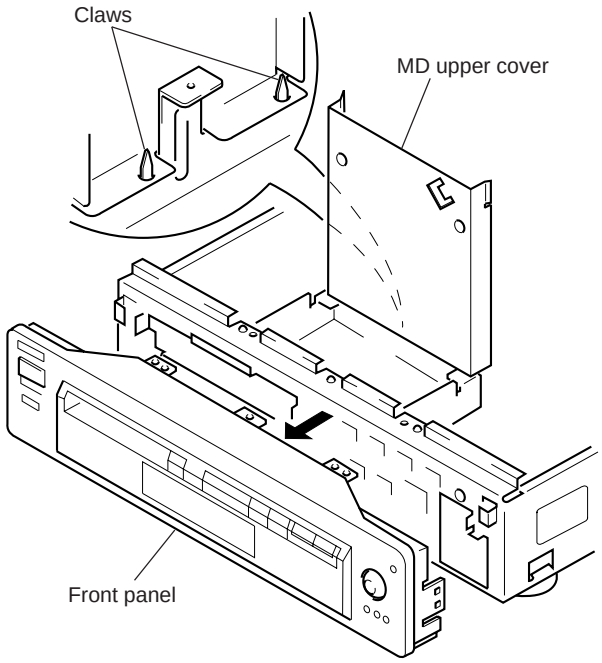


Fig. 3

5) Install the MD block ass'y as shown in Fig. 4.
   Note: Place a cushion at the position Ⓐ.
6) Connect three flexible flat cables.

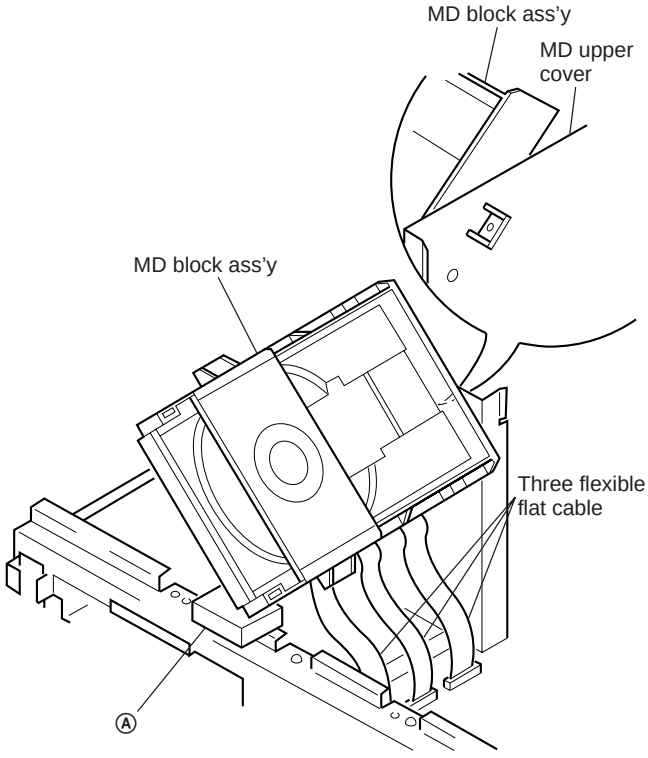


Fig. 4

4. NOTE ON MOUNTEING SLED MOTOR

1) Push the sled motor assy ① toward direction Ⓐ. (See Fig.5)
2) Tighten two screws ② (M1.7 × 2.5).

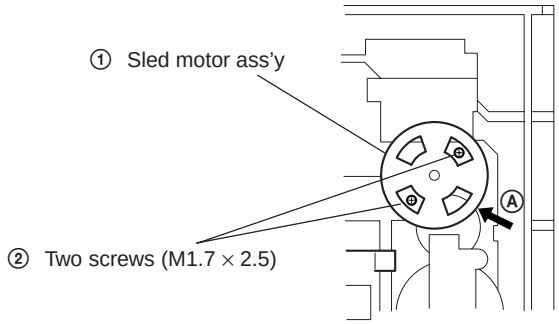


Fig. 5

3) Raising the MD block assy ③ 90 º with the side down. confirm that the optical pick-up ④ falls by self weight. (See Fig. 6)
4) Further, with the front side of MD block assy ③ up, confirm that the optical pick-up falls by self weight.

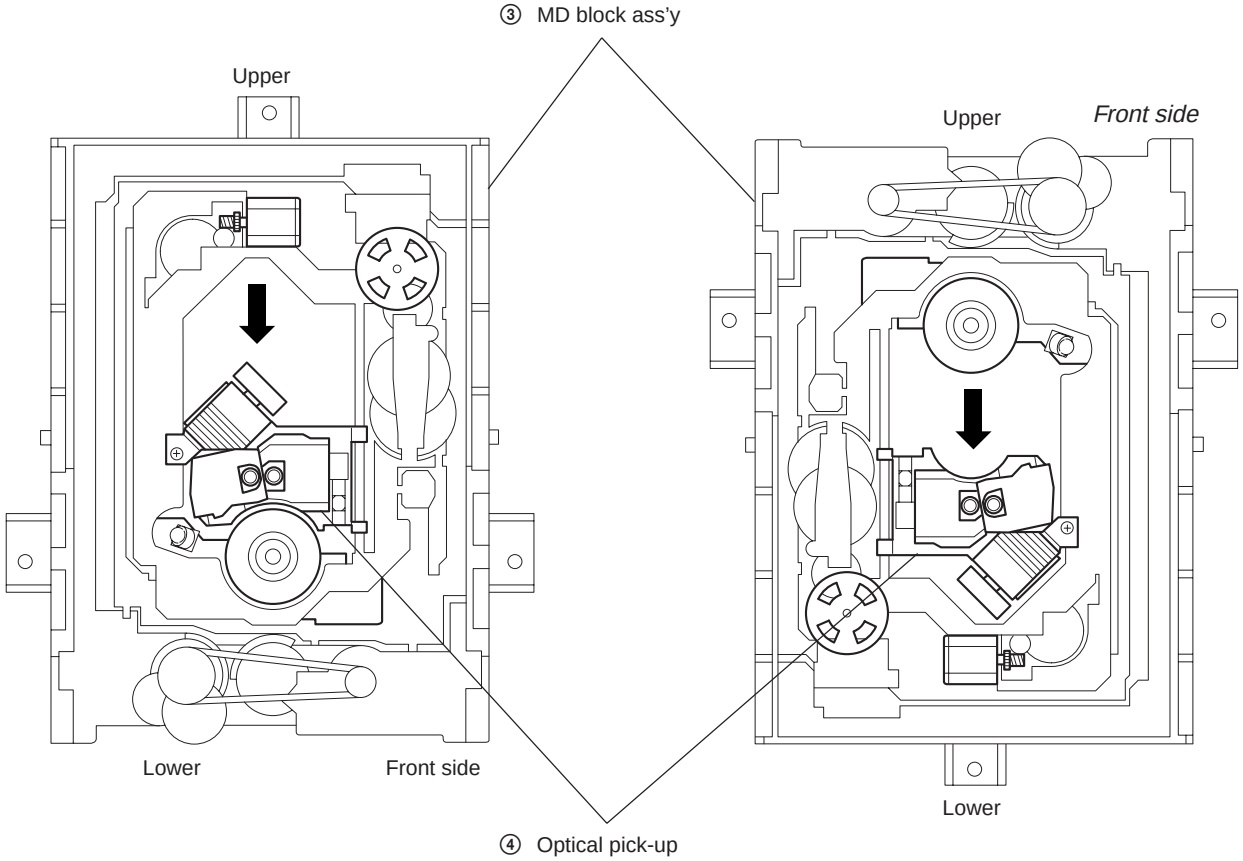


Fig. 6

5. REPLACING OPTICAL PICK-UP

5-1. Handling

1) A red laser diode for DVD requires more attention to static electricity than general infrared laser diodes for CD.
Because its durability to static electricity is far weaker than that of infrared laser diodes, always use an earth band when handling the optical pick-up block as service parts.

2) As for the flexible board KHS-180A (RP) packed as service parts, the short lands have been soldered to protect from static electricity. Accordingly, remove solders when replacing optical pick-up. (See Fig. 7)

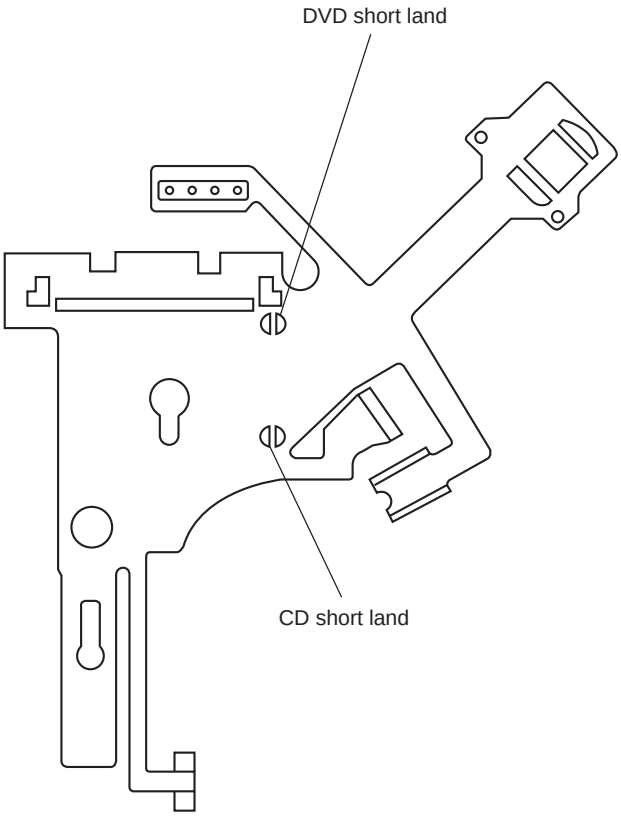
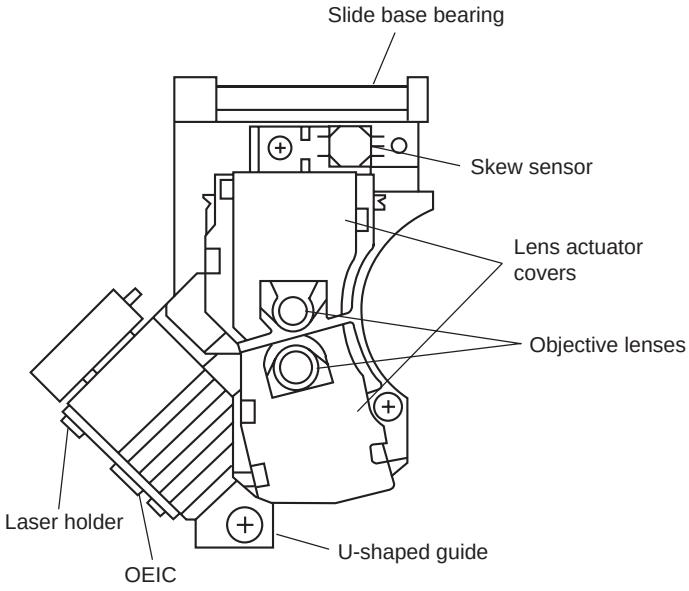


Fig. 7 Flexible board

3) In handling the KHS-180A (RP), do not touch inhibited parts shown in Fig. 8, but grip the slide base bearing and U-shaped guide.



Touch inhibited parts
- Objective lens
- Skew sensor
- Laser holder
- Laser coupler
- Flexible board
- OEIC
- Lens actuator covers

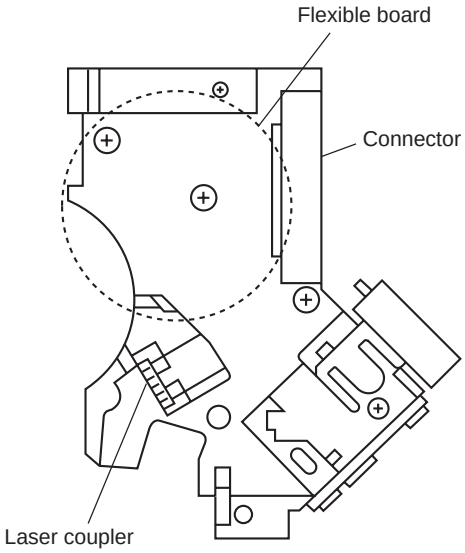


Fig. 8 KHS-180A (RP)

6. NOTE ON ASSEMBLING MECHANICAL DECK

6-1. Application of Grease

1) Grease must be applied if the following parts were replaced. (See Fig. 9)

NOTE 1: Recommended grease is Foil KG-70MP.

NOTE 2: In applying grease, take care not to allow grease to stick to other parts (particularly, rubber belt, spindle motor, and optical pick-up)

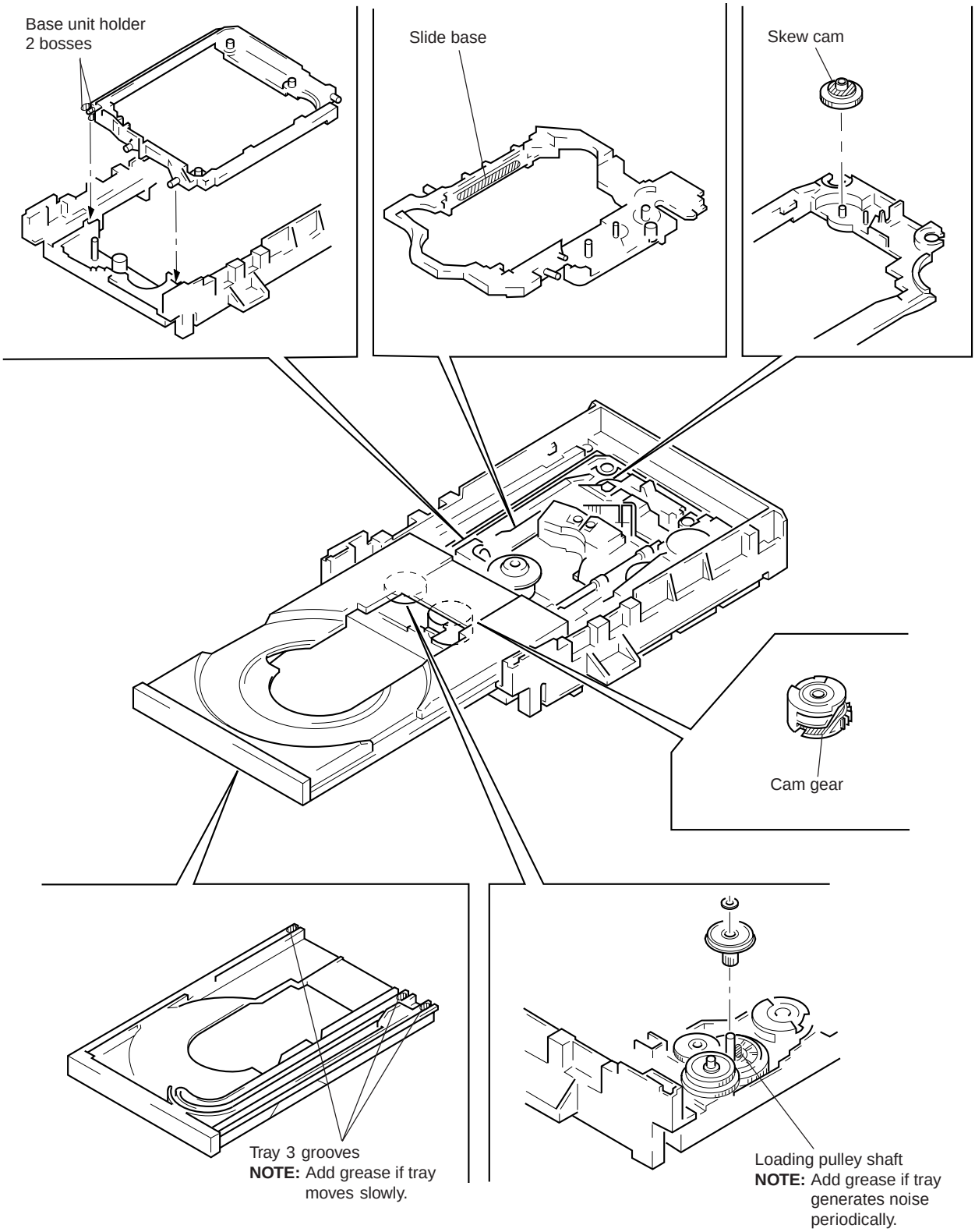


Fig. 9

6-2. Cleaning Spindle Motor Turntable

1) Remove the tray. (Refer to 2-6)
2) Clean the spindle motor turntable if disc antiskid rubber (black) is dirty. (See Fig.10)

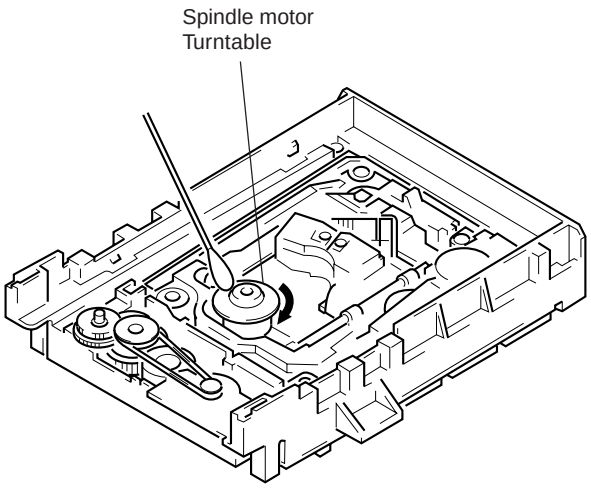


Fig. 10

6-3. Aligning Phase of Cam Gear and Drive Gear

1) Align triangle marks when assembling the cam gear and drive gear. (See Fig.11)

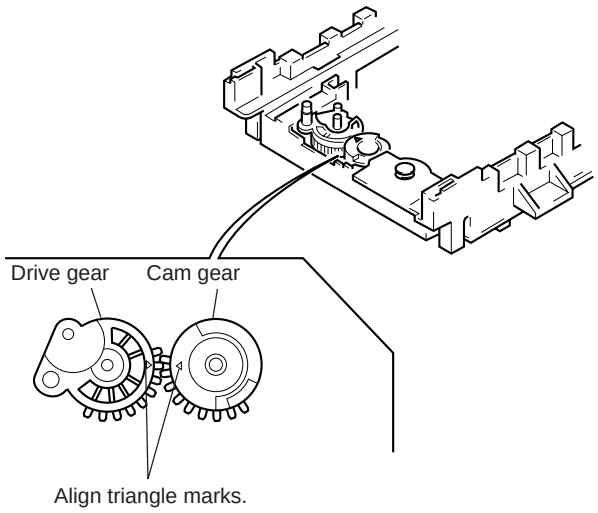


Fig. 11

6-4. Deformation of Insulator

1) Assemble the spindle base into the base unit.
2) Lock with 4 shoulder screws. (See Fig.12)
3) Check if 4 insulators deformed. (See Fig.12)

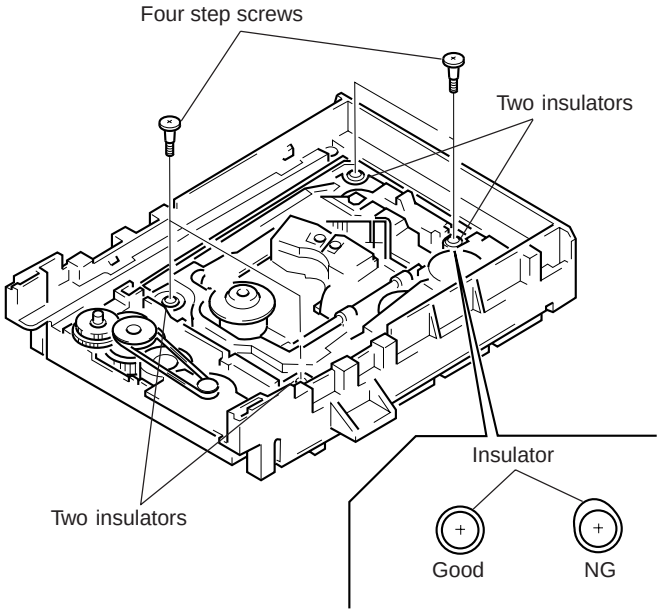


Fig. 12

6-5. Note on connecting OPT Harness

1) The optical pick-up could be destroyed unless the OPT harness is connected normally to the connector. (See Fig.13)

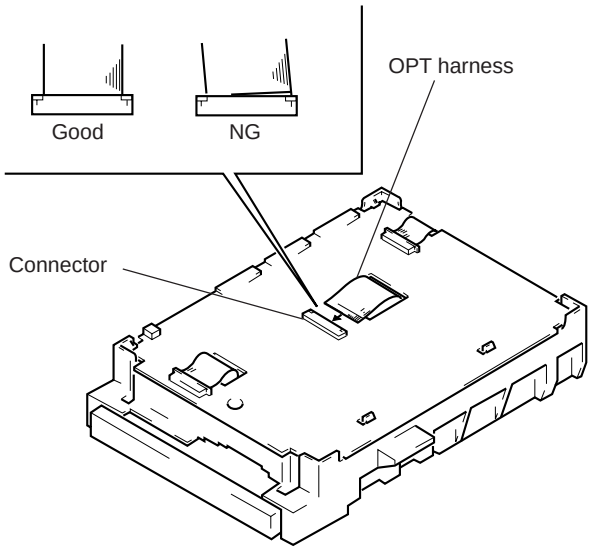


Fig. 13

6-6. Note on Mounting LM-51 Board

1) Align two bosses. (See Fig.14)
2) Fix the board securely with screws (PTPWH 2 × 5). (The sensor will not function normally if the board floats up.)

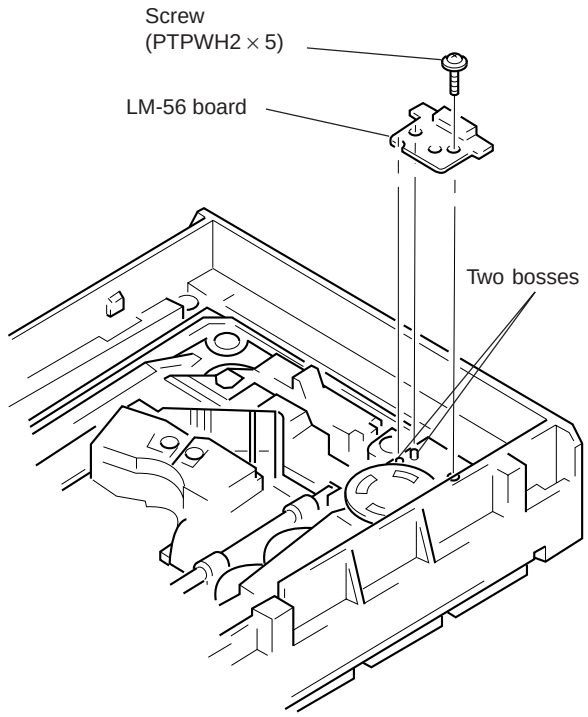


Fig.14

6-7. Note on Mounting TT-701 Board

1) Align two bosses. (See Fig.15)
2) Align four tabs. (See Fig.15)
3) Fix the board securely with 3 screws (BV 3 × 10). (The sensor will not function normally if the board floats up.)

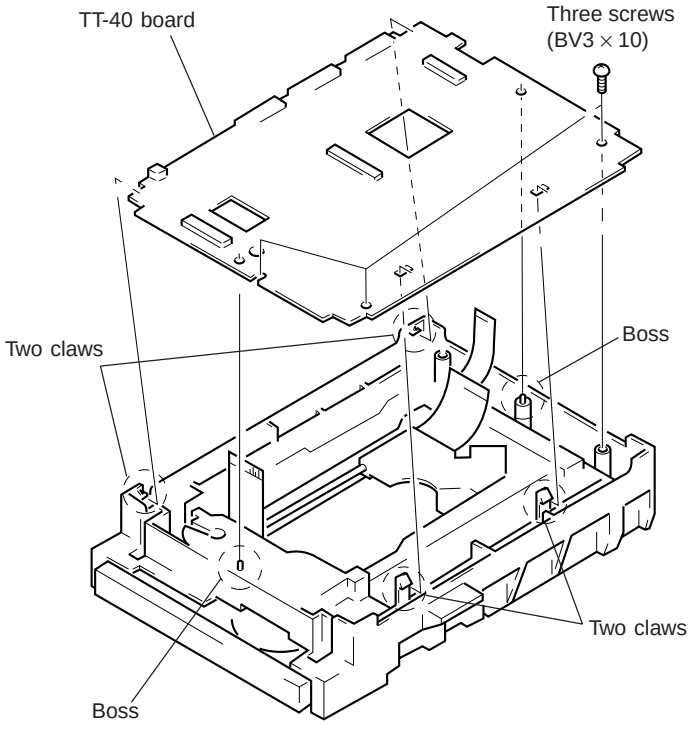
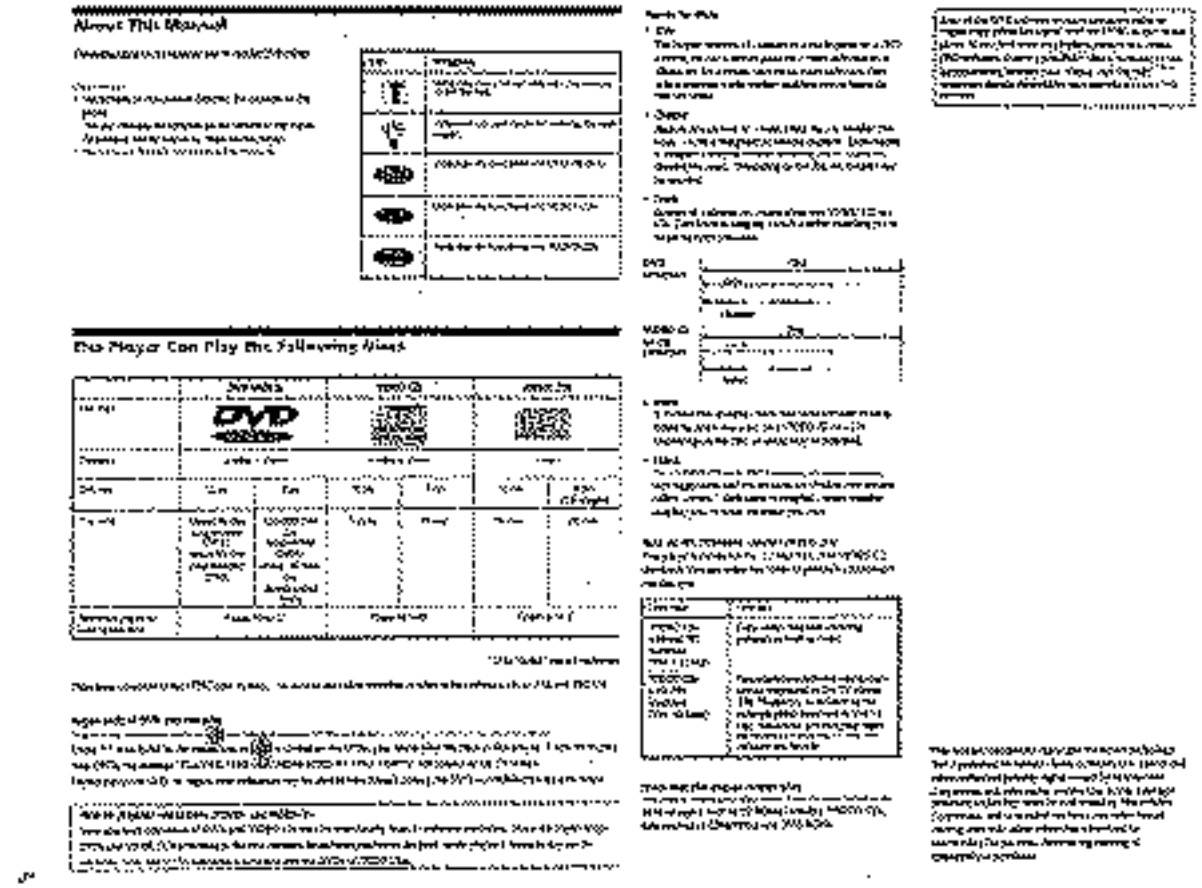
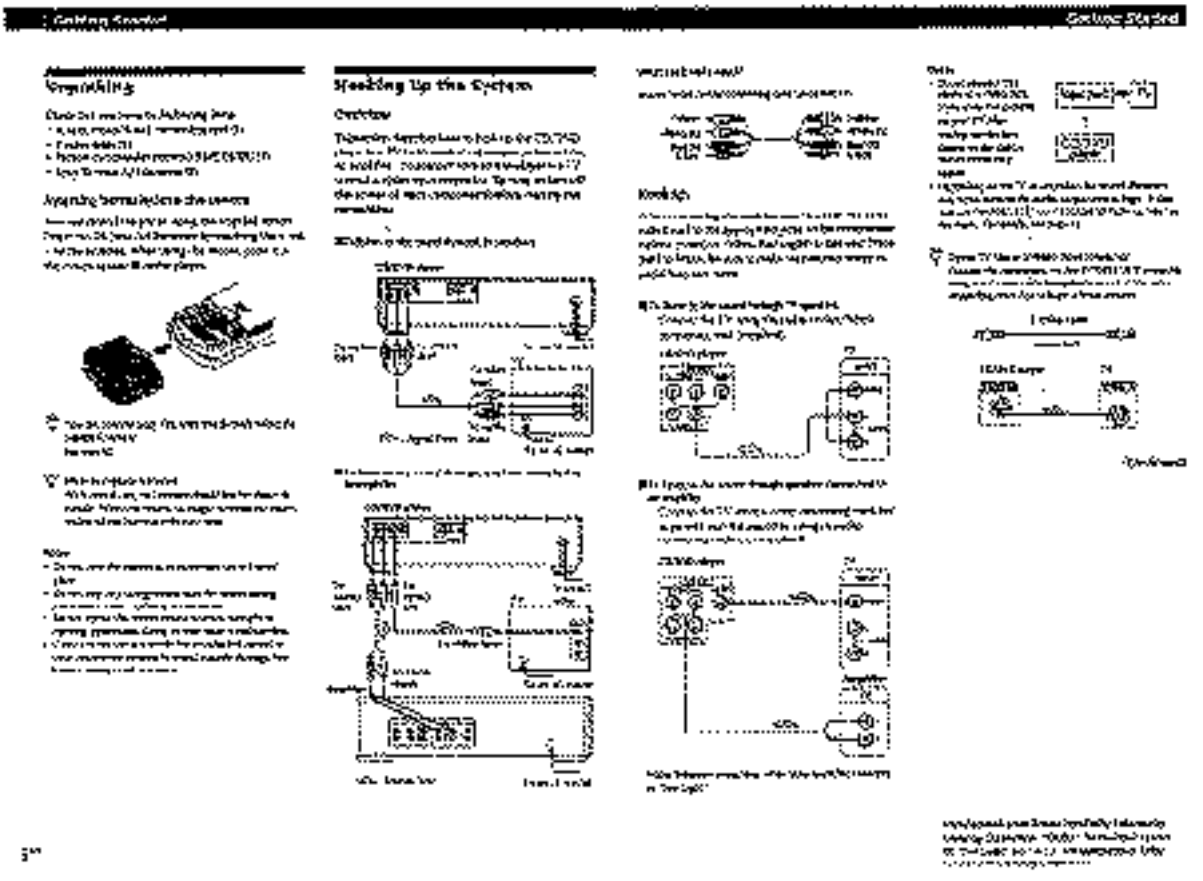


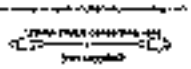
Fig.15

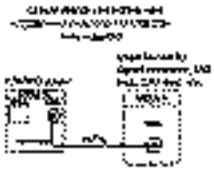
SECTION 1
GENERAL

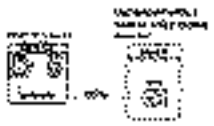
This section is extracted from US model instruction manual.

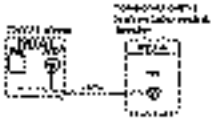






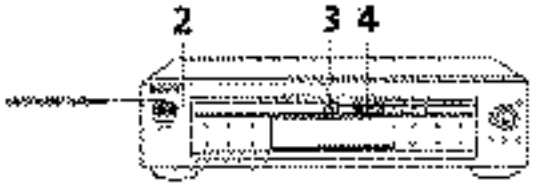


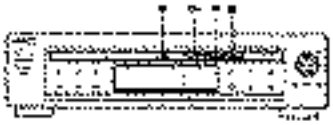


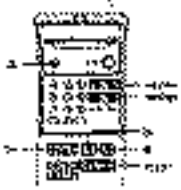


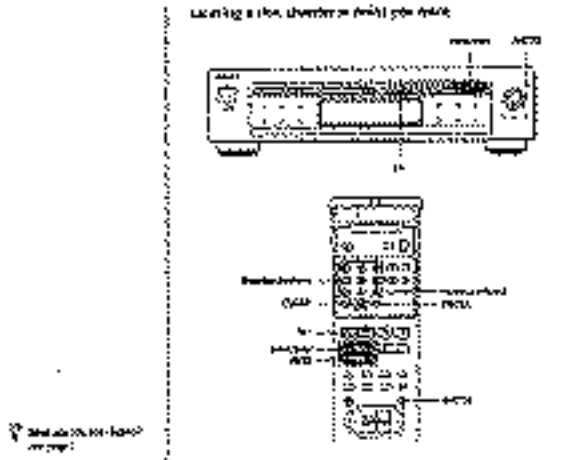
Necessary Steps Before Using the Player

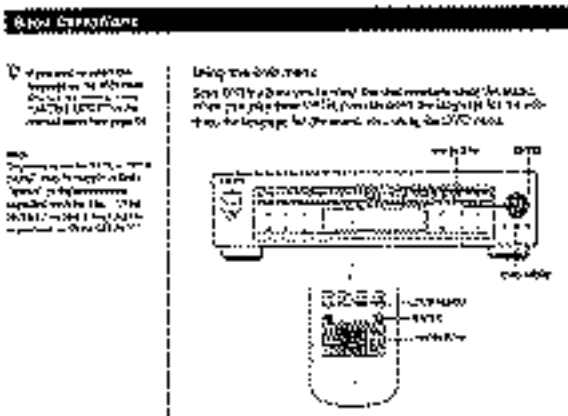
Playing a DVD

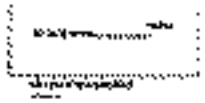


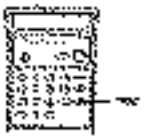


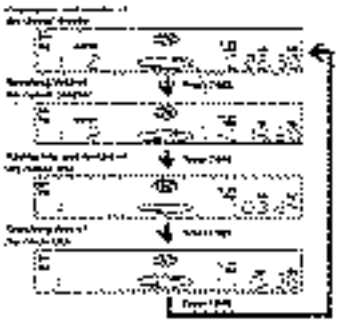












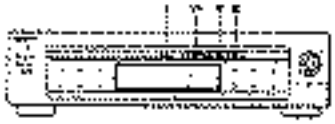
Playing a VIDEO CD

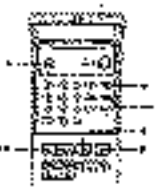
1

2 Press ▶ (play).

3 Press ■ (stop) to stop playback.

4 Press ⏏.

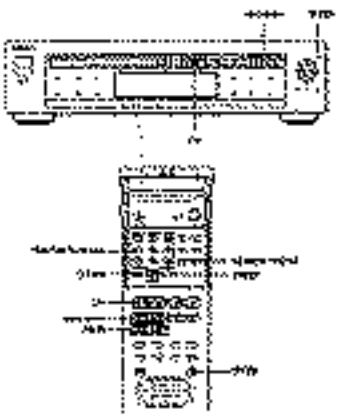


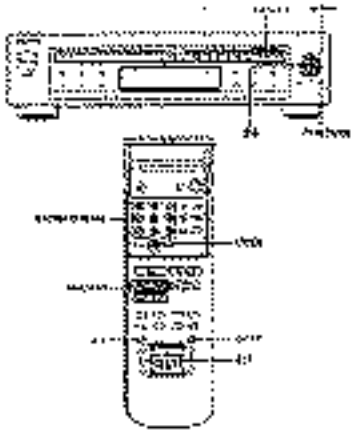


Backing Up Space

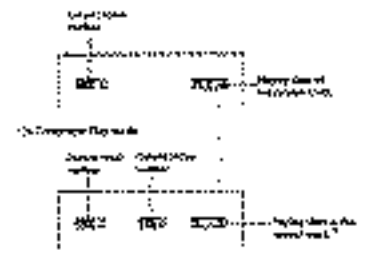
To return to Continuous Play mode

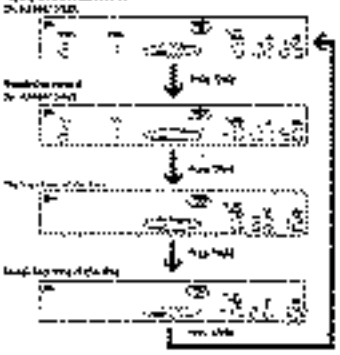
Press ⏏.



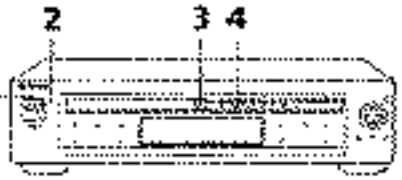


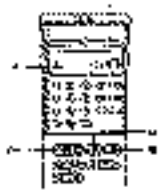
(Continued)

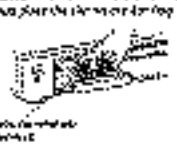


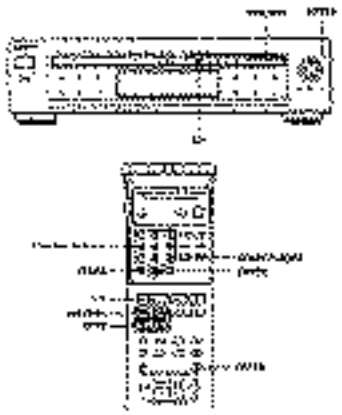


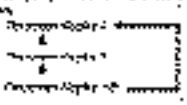
Playing a CD

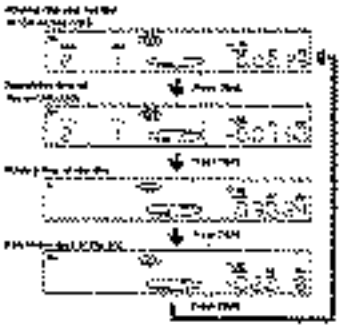




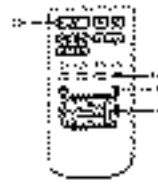


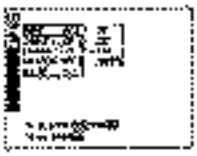




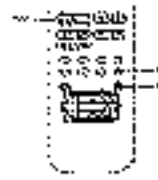


Playing Repeatedly (Repeat Play)

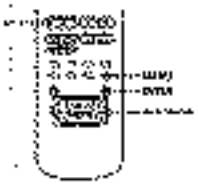




Playing in Random Order (Shuffle Play)



Creating Your Own Programs (Program Play)



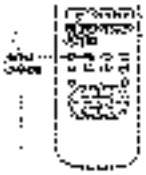
Resuming Playback from the Point Where You Stopped a Disc (Resume Play)

Changing the Sounds

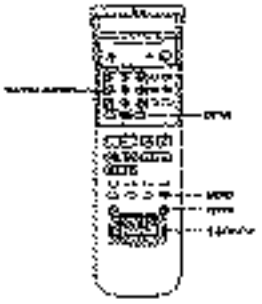
Turning the Sub-titles On and Off

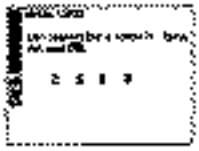
Changing the Sub-titles

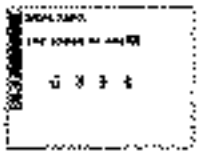
Changing the Angle

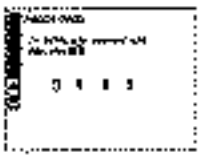


Limiting Playback by Children (Parental Control)

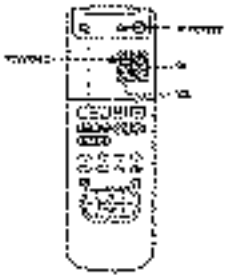






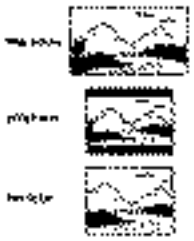


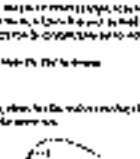
Controlling the TV with the Supplied Remote



Settings for Playback (PLAY MODE)

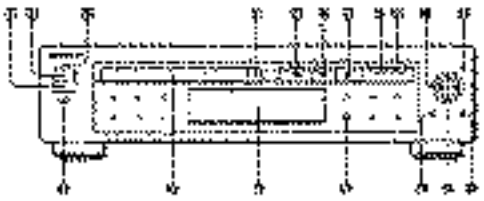
Settings for Display and Sound (CUSTOM SETUP)





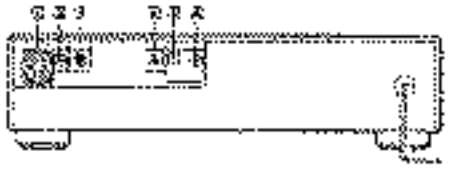
Precautions

Index to Parts and Controls



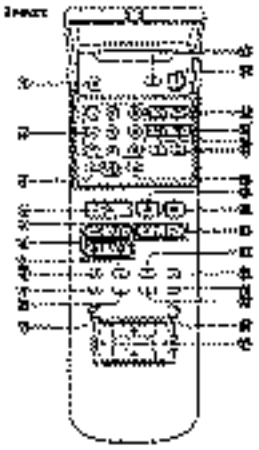
[illegible]

[illegible]



[illegible]

[illegible]



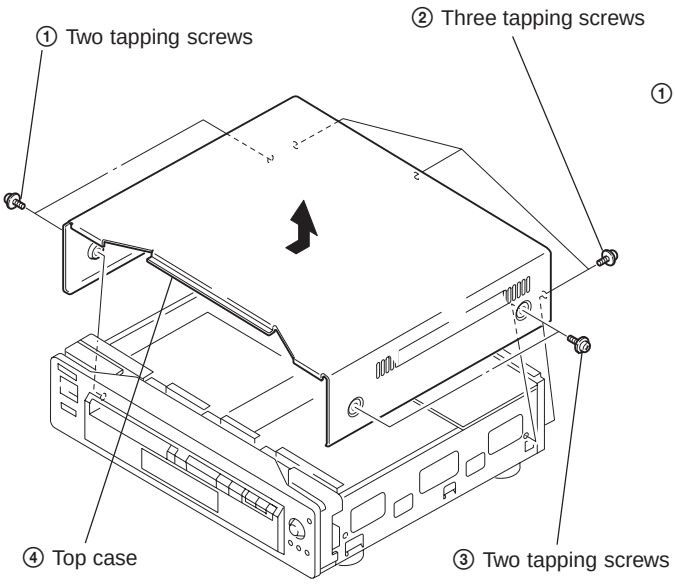
[illegible]

[illegible]

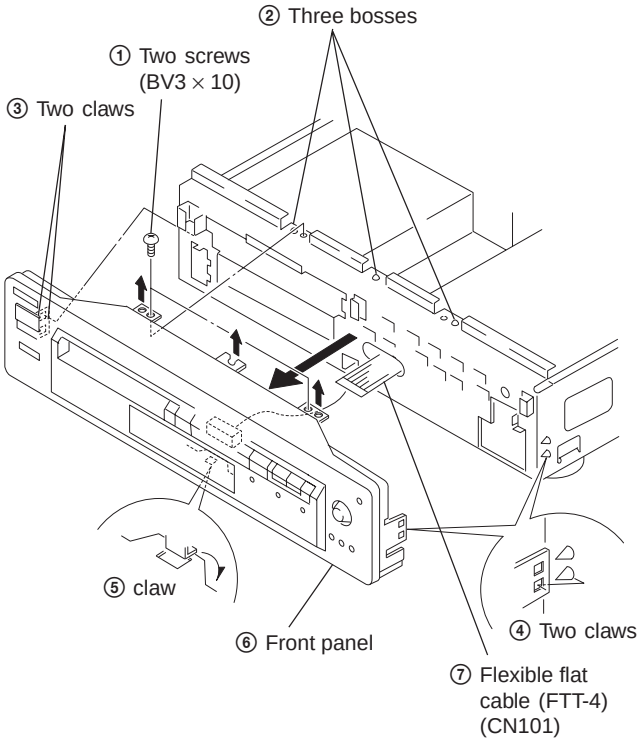
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

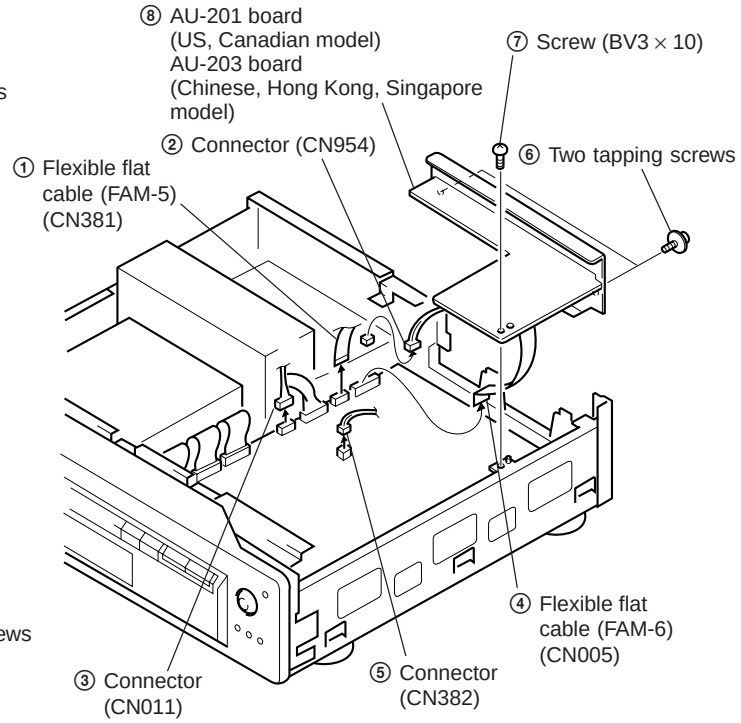
2-1. TOP CASE REMOVAL



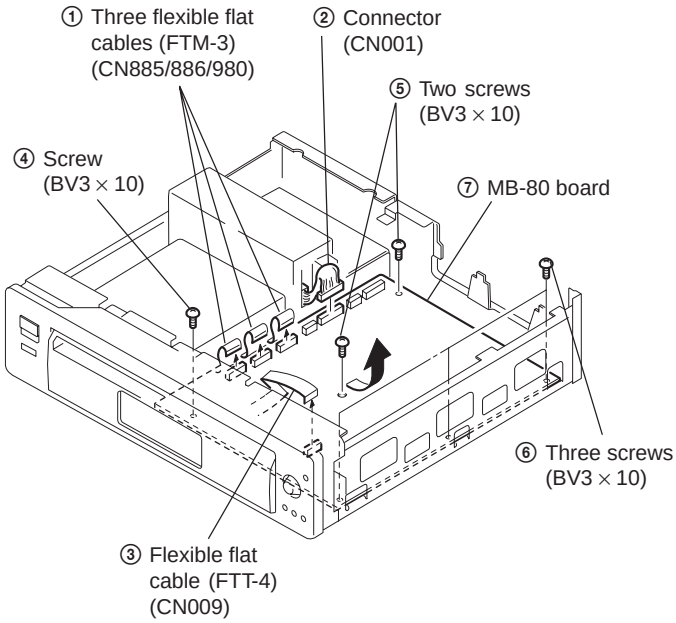
2-2. FRONT PANEL REMOVAL



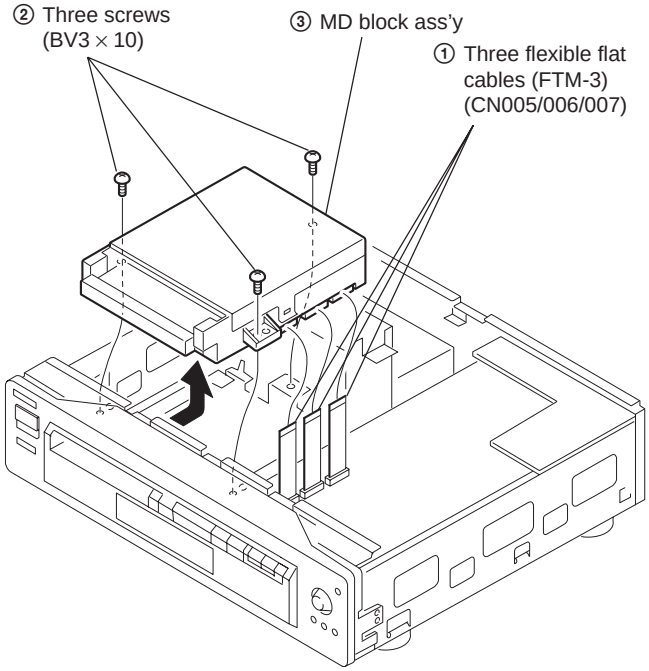
2-3. AU-201, 203 BOARD REMOVAL


⑧ AU-201 board (US, Canadian model) AU-203 board (Chinese, Hong Kong, Singapore model)
⑦ Screw (BV3 × 10)
② Connector (CN954)
⑥ Two tapping screws
① Flexible flat cable (FAM-5) (CN381)
④ Flexible flat cable (FAM-6) (CN005)
③ Connector (CN011)
⑤ Connector (CN382)

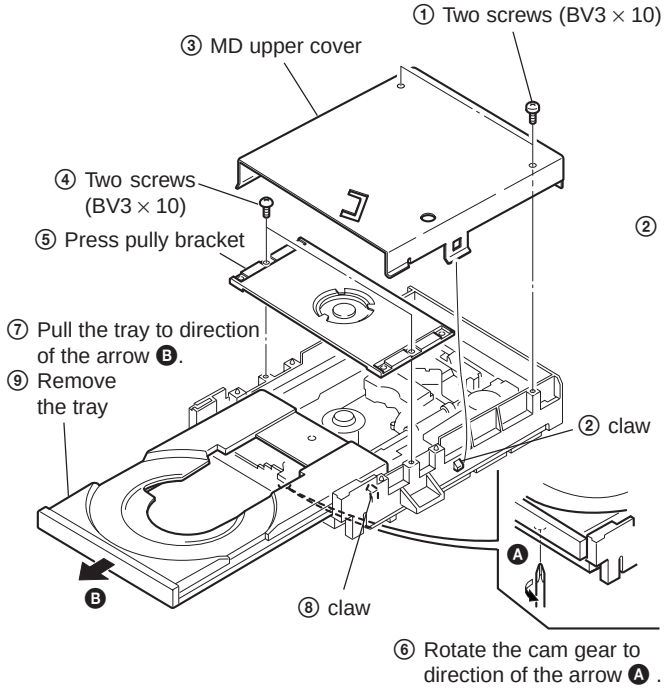
2-4. MB-80 BOARD REMOVAL


① Three flexible flat cables (FTM-3) (CN885/886/980)
② Connector (CN001)
⑤ Two screws (BV3 × 10)
④ Screw (BV3 × 10)
⑦ MB-80 board
⑥ Three screws (BV3 × 10)
③ Flexible flat cable (FTT-4) (CN009)

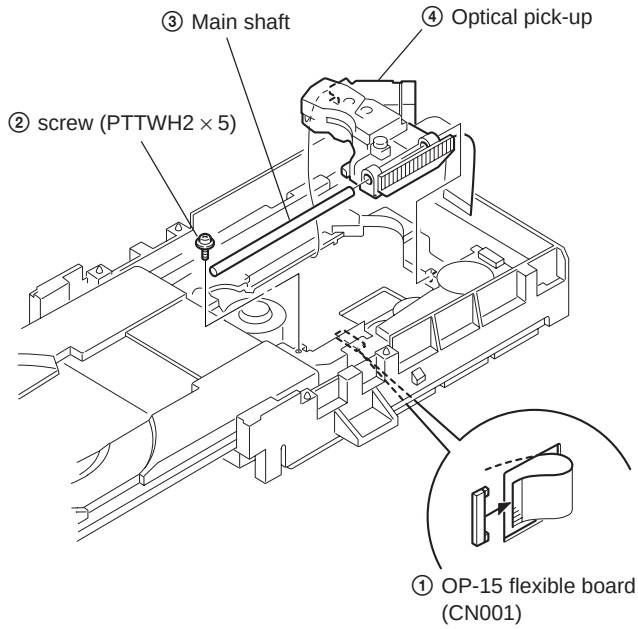
2-5. MD BLOCK ASS'Y REMOVAL



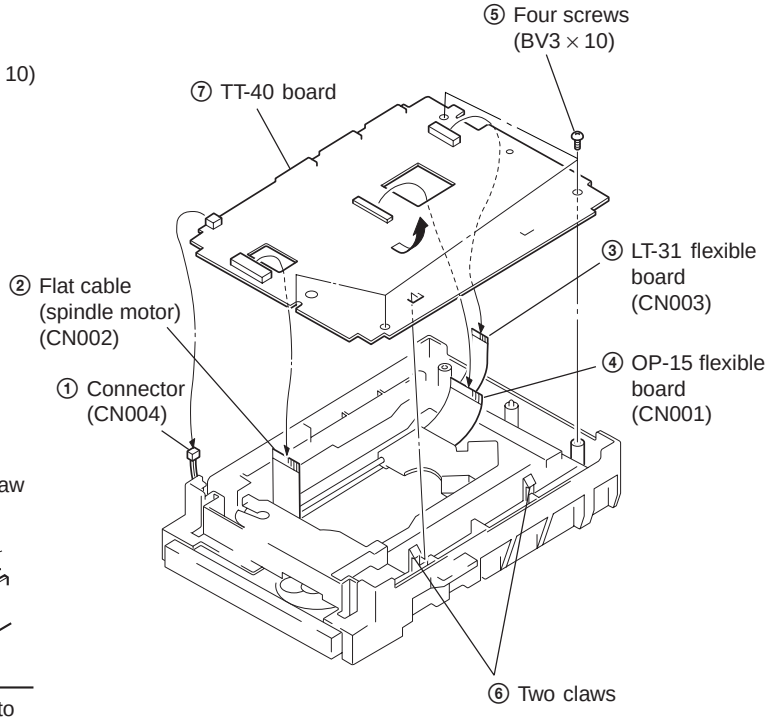
2-6. TRAY REMOVAL



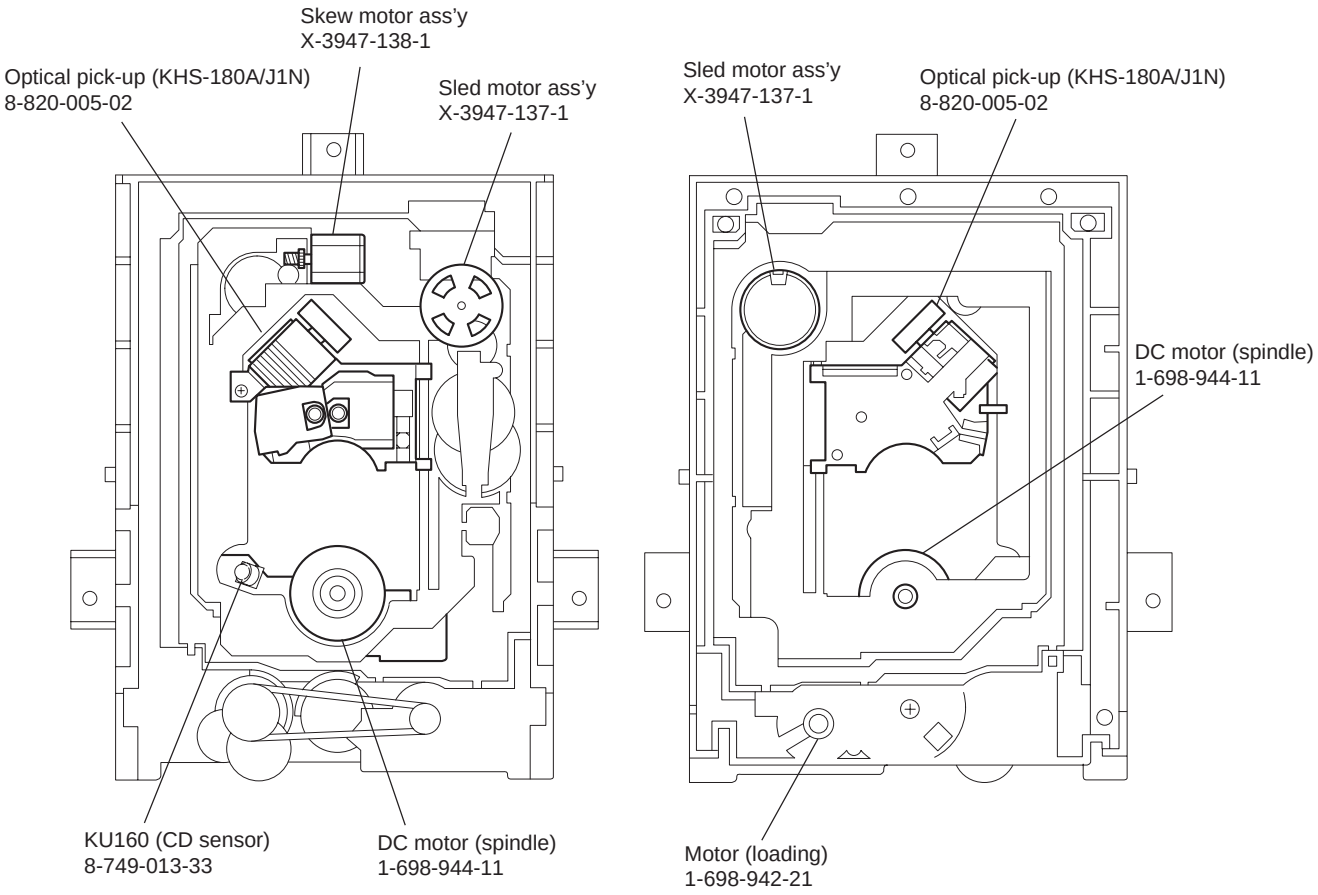
2-7. OPTICAL PICK-UP REMOVAL



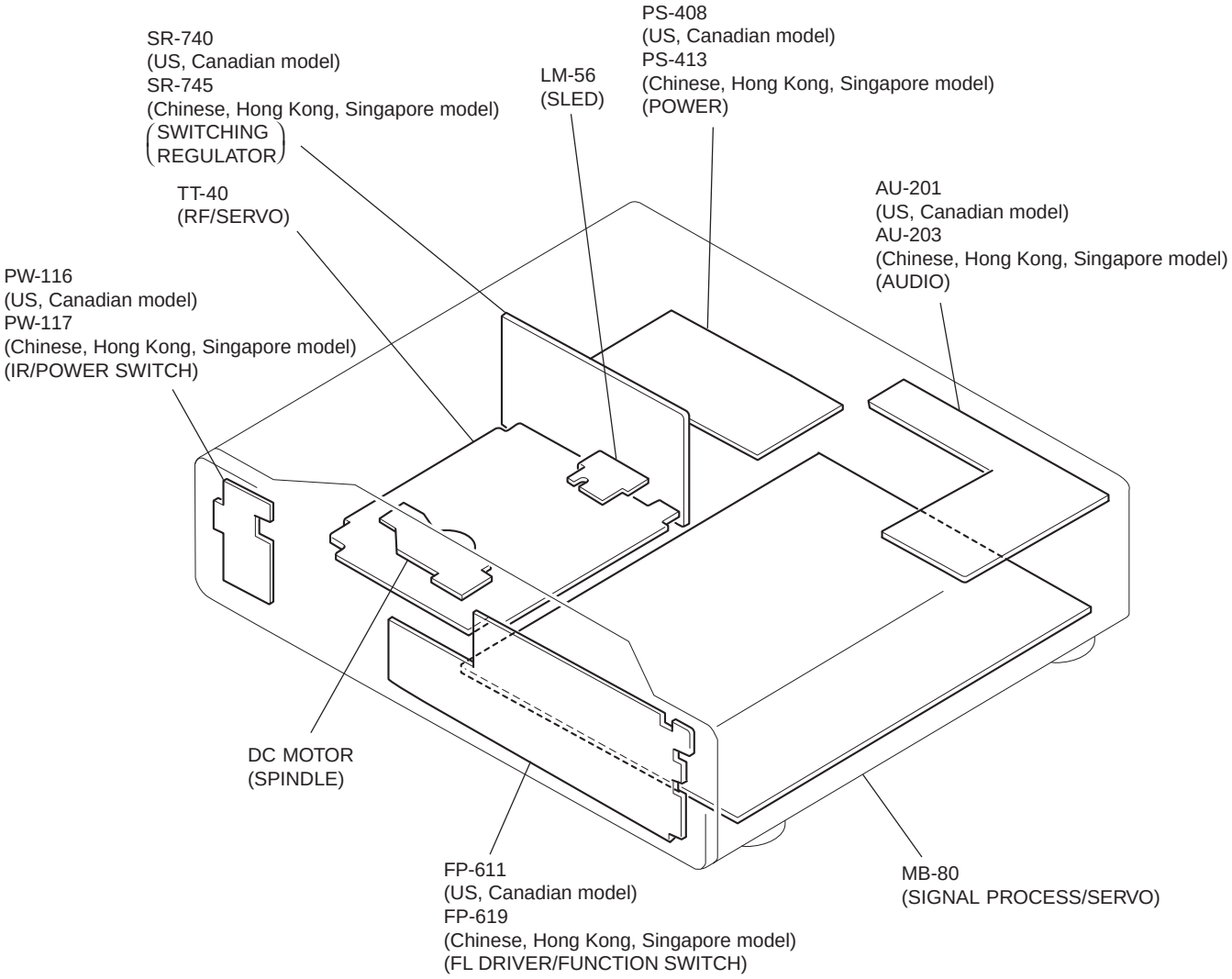
2-8. TT-40 BOARD REMOVAL



2-9. INTERNAL VIEWS



2-10. CIRCUIT BOARD LOCATION



5-1. INTERFACE CONTROL PIN FUNCTION (IC021 on MB-80 Board (1/12))

Pin No.	Pin Name	I/O	Function
1,2	CL1, 0	I	Input of sub clock (32kHz)
3,4	GND	–	Ground
5,6	X0–1	I	Input of main clock (8MHz)
7	GND	–	Ground
8	$\overline{\text{RST}}$	I	Input of RESET signal
9	RESET	O	SRESET (SYSCON)
10	INTMS	O	XINTM S (SYSCON)
11	$\overline{\text{AUDIO MUTE}}$	O	SAUDIO MUTE (L)
12	IFDIAG	I	DIAG (H)
13	NITSC	O	NTSC (H) /PAL (L)
14,15	N.C.	–	Not used
16	FLCS	O	XFLCS (FL)
17	REF V	I	XREF-V (VSYNC)
18	INTSM	I	XINTSM (SYSCON)
19-24	N.C.	–	Not used
25	POWER CONT	O	POWER-CONT (H)
26	DATA BOUND	O	DATA-BOUND
27	N.C.	–	Not used
28	CMOD	I	CMOD
29	P.FAIL	O	Power fail
30	CGSO	O	CGSO (FL & OSDC)
31	CGCLK	O	CGCLK (FL & OSDC)
32	WSIRCS	I	WSIRCS
33	CGCS	O	CGCS (OSDC)
34	V MUTE	O	Video mute
35	STATUS	O	STATUS (H)
36	N.C.	–	TSEL (OSDC) Not used
37	STATUS	O	FSEL (OSDC)
38	N.C.	–	TRE (OSDC) Not used
39-48	N.C.	–	Not used
49	VCC	–	Power supply
50-57	N.C.	–	Not used
58	GND	–	Ground

Pin No.	Pin Name	I/O	Function
59-66	N.C.	–	Not used
67	VCC	–	Power supply
68-75	N.C.	–	Not used
76	CS	I	CS (SYSCON)
77	SI	I	SI (SYSCON)
78	SO	O	SO (SYSCON)
79	CLK	I	CLK (SYSCON)
80-82	N.C.	–	Not used
83	GND	–	Ground
84-87	AD0–3	I	Analog input
88	TEST 1	I	Input of TEST 1 signal
89	TEST 2	I	Input of TEST 2 signal
90	N.C.	–	Not used
91	N.C.	–	Not used
92	VCC	–	Power supply
93	POWER-FAIL	I	Input of POWER-FAIL (AD INPUT)
94	N.C.	–	Not used
95	CGRA 16	I	CGRA16 Character generator font ROM address 16
96	CGRA 17	I	CGRA17 Character generator font ROM address 17
97	CGRA 18	I	CGRA18 Character generator font ROM address 18
98	N.C.	–	Not used
99	N.C.	–	Not used
100	VCC	–	Power supply

5-2. DRIVE CONTROL PIN FUNCTION (IC136 on MB-80 Board (3/12))

Pin No.	Pin Name	I/O	Function
1	VCC	–	Power supply
2	MRST	O	Peripheral circuits reset signal (L: Reset)
3	12 RST	O	12V system power control signal
4	CD DET	I	Input of DVD/CD discriminate sensor
5	TRAY OUT	I	Tray out end (H: End)
6	CHUCK	I	Chucking down end (H: End)
7	LOCK	I	Good Frame Sync dat (H: OK, L: NG)
8	XPNM	I	RF Pro PLL Mode (L: Normal)
9	FOK	I	Focus OK (H: OK, L: NG)
10	N.C.	–	Not used
11	VSS	–	Ground
12	CPDTO	O	Serial data output to each IC
13	SDCS (SO)	O	Serial data output to jig
14	CPDTI	I	Serial data input from each IC
15	SDSC (SI)	I	Serial data input from jig
16	CPCK	O	Serial clock to each IC
17	SCKCS	O	Serial clock to jig
18–21	D0–3	I/O	Data bus 0–3
22	VSS	–	Ground
23–25	D4–6	I/O	Data bus 4–6
26–34	D7–15	I/O	Data bus 7–15
35	VCC	–	Power supply
36–43	A0–7	O	Address bus 0–7
44	VSS	–	Ground
45–50	A8–13	O	Address bus 8–13
51–56	A14–19	O	Address bus 14–19
57	$\overline{\text{VSS}}$	–	Ground
58	$\overline{\text{WAIT}}$	I	WAIT signal (fixed to “H”)
59	$\overline{\text{BREQ}}$	I	Input of bus request
60	$\overline{\text{BACK}}$	O	Output of bus ACK
61	$\overline{\text{SYS CLK}}$	O	Output of system clock (for check)
62	$\overline{\text{STBY}}$	I	Fixed to “H”
63	$\overline{\text{RES}}$	I	Input of Reset by SH (L: Reset)
64	NMI	I	Fixed to “L”

Pin No.	Pin Name	I/O	Function
65	VSS	–	Ground
66	EXTAL	I	Input of 16.9MHz
67	XTAL	I	Input of 16.9MHz
68	VCC	–	Power supply
69	$\overline{\text{AS}}$	O	Address strobe
70	$\overline{\text{RD}}$	O	Read
71	$\overline{\text{HWR}}$	O	H_Write
72	$\overline{\text{LWR}}$	O	L_Write
73–75	$\overline{\text{MD0–2}}$	I	Operation mode setting (Mode 2)
76	A VCC	–	Power supply
77	VREF	–	Reference voltage
78	N.C.	–	Not used
79	HYDET1	I	Input of sled FG2
80	P FAIL	I	Power down pre signal
81	PI	I	Input of pull–in signal
82	SLD2–	I	Input of sled offset
83	SLD2+	I	Input of sled offset
84	VCOM	I	Input of VCO adjustment
85	JIG BUSY	I	Serial busy signal from Jig
86	A VSS	–	Ground
87	SCOR	I	CXD2545 address storing request signal
88	INT-SC	I	Serial data
89	SOINT	I	Jitter storing request signal
90	SYS_INT	I	Interrupt request signal from Syscon
91	ROM BUSY	I	EEPROM Ready/Busy signal
92	VSS	I	Ground
93	TKC	I	Input of sled FG count
94	FCMPL	I	FEZC Low det
95	FCMPH	O	FEZC High det
96	SENS	I	Input of SENS signal
97	HFG	I	Input of spindle FG
98	DVDLDON	O	LD ON/OFF control for DVD
99	CDLCON	O	LD ON/OFF control for CD
100	LT MUTE	O	

5-3. EXTENDED OUTPUT PORT0 (IC147 on MB-80 Board (3/12))

Pin No.	Pin Name	I/O	Function
2	SQCK MSK	O	SubQ Read Clock Mask
5	ROM CS	O	Chip Select for EEPROM
6	DA XLD	O	Load Signal for D/A
9	SUBQ XOE	O	SubQ Output Enable
12	XLAT	O	Latch Signal for CXD2545
15	SDEN	O	Serial Output Enable For SSI3720
16	SLD MODE	O	Sled Control change
19	INT CS	O	Serial data forward request

5-4. EXTENDED OUTPUT PORT1 (IC148 on MB-80 Board (3/12))

Pin No.	Pin Name	I/O	Function
2	XLT	O	Latch Signal for RF Pro
5	SOEN	O	Serial Output Enable for RF Pro
6	SCK MSK	O	Serial command transfer clock master
9	SCLK	O	SENS reading clock
12	FJUMP-	O	Focus Jump Pulse
15	FJUMP+	O	Focus Jump Pulse
16	DRV BUSY	O	Communication inhibit request from system controller
19	LOCK MON	O	Spindle LOCK Monitor Out

5-5. EXTENDED OUTPUT PORT2 (IC149 on MB-80 Board (3/12))

Pin No.	Pin Name	I/O	Function
2	DRV INT	O	Interrupt request to system controller
5	NST	O	Spindle forced stop (L: Stop) Active only at out of control
6	FHOLD	O	Focus Hold
9	FDWN	O	Focus Gain Down (L: Normal)
12	LOAD ON	O	Loading/Unloading Moter ON/OFF
15	DET ON	O	CD Det Sensor LED ON/OFF
16	LP ON	O	VCO Control
19	MUTE	O	Date output (CXD2545) control

5-6. EXTENDED OUTPUT PORT3 (IC150 on MB-80 Board (3/12))

Pin No.	Pin Name	I/O	Function
2	TILT/H	O	Tilt Filter change
5	SPGC1	O	Selection of low band boost (H: 12 cm, L: 8 cm)
6	CD/DVD	O	DVD/CD (H: DVD, L: CD)
9	Q4	–	Not used
12	SPCTL0	O	Spindle Control [SPCTL0: SPCTL1]
15	SPCTL1	O	[0: 0] = control, [0: 1] = not control, [1: 0] = acceleration, [1: 1] = deceleration
16	CLVH	O	Spindle CLVH Control
19	Q8	–	Not used

5-7. D/A CONVERTER (IC722 on MB-75 Board (10/12))

Pin No.	Pin Name	I/O	Function
1	VSS	–	Ground
2	HYCNTR	O	Adjustment of hall element output
3	SDCNTR	O	Target sled speed
4	TI OFFSET	O	Tilt sensor offset output
5	LOAD/UNLOAD	O	Loading/Unloading Control
6	TI DRIVE	O	For tilt forced movement
7	SDINIT	O	Offset adjusting signal of sled motor drive
8	VDD	–	Power supply
9	VCC	–	Power supply
10	A08	–	Not used
11	DO	O	Serial Data Output
12	LD	I	Serial Data Load
13	CLK	I	Serial Clock Input
14	DI	I	Serial Data Input
15	AVCO	O	For VCO adjustment
16	GND	–	Ground

5-8. SYSTEM CONTROL PIN FUNCTION (IC090 on MB-80 Board (2/12))

Pin No.	Pin Name	I/O	Function
1	IRQ6	I	Input of interrupt from CXD1186, CXD8663Q, CXD8669Q
2	IRQ7	I	Input of interrupt from CXD1900
3	VSS	–	Digital ground
4–11	AD0–7	I/O	Data bus AD0-AD7
12	VSS	–	Digital ground
13,14	AD8–9	I/O	Data bus AD8, AD9
15	VCC	–	Digital power supply
16–21	AD10–15	I/O	Data bus AD10-AD15
22	VSS	–	Digital ground
23–30	A0–7	O	Address bus A0-A7
31	VSS	–	Digital ground
32–39	A8–15	O	Address bus A8-A15
40	VSS	–	Digital ground
41,42	A16–17	O	Address bus A16, A17
43	VCC	–	Digital power supply
44–47	A18–21	O	Address bus A18-A21
48	CS0	O	Chip select signal for external ROM
49	CS1	O	Chip select signal for external RAM
50	CS2	–	Not used
51	CS3	O	Chip select signal for RAM common to drive controller
52	VSS	–	Digital ground
53	PA0	O	Not used
54	PA1	O	Output of squeeze mode
55	CS6	O	Output of chip select signal to external device
56	WAIT	I	Input of wait signal
57	WR	O	Output of write signal
58	PA5	O	Output of IF controller serial data control
59	RD	O	Output of read signal
60	PA7	O	Not used
61	VSS	–	Digital ground
62	PA8	O	Output of serial select signal to L chip
63	PA9	O	Output of serial select signal to CXD1914
64	PA10	O	Output of serial select signal to audio DAC
65	PA11	O	Output of error free signal

Pin No.	Pin Name	I/O	Function
66	IRQ0	I	Input of interrupt signal from SP, BFD, drive controller
67	DREQ0	I	Input of DMA request from CK
68	IRQ2	I	Input of VSYNC (FID) interrupt signal
69	IRQ3	I	Input of interrupt signal from CK, DSP5600
70	VCC	–	Digital power supply
71	CK	O	Output of internal clock
72	VSS	–	Digital ground
73	EXTAL	–	20MHz crystal connection pin
74	XTAL	–	20MHz crystal connection pin
75	VCC	–	Digital power supply
76	NMI	–	Not used
77	VCC	–	Digital power supply
78	WDTOVF	–	Not used
79	RES	I	Input of reset signal
80	MD0	I	Input of mode select 0 (fixed to “1”)
81	MD1	I	Input of mode select 1 (fixed to “0”)
82	MD2	I	Input of mode select 2 (fixed to “0”)
83,84	VCC	–	Digital power supply
85	AVCC	–	Analog power supply
86	AVREF	–	Reference power supply
87	PC0	I	Input of DIAG mode select signal
88	PC1	I	Input of EMPH signal from CXD2545
89	PC2	I	Input of request from drive controller
90	PC3	I	Input of request from DSP56000
91	AVSS	–	Analog ground
92	PC4	I	Input of FID signal from CXD1914
93	PC5	I	Input of request from I/F controller
94	PC6	I	Input of control 1
95	PC7	I	Input of control 2
96	VSS	–	Digital ground
97	PB0	O	Output of request to I/F controller
98	PB1	O	Output of request to drive controller
99	VCC	–	Digital power supply
100	PB2	O	Output of clock system switching (DVD/CD)

Pin No.	Pin Name	I/O	Function
101	PB3	O	Output of reset signal to audio DAC
102	PB4	O	Output of reset signal to peripheral device
103	PB5	O	Output of serial select signal to DSP56000
104	PB6	O	Output of HREQ signal latch reset to DSP56000
105	PB7	O	Output of serial select signal to video equalizer
106	VSS	–	Digital ground
107	RxD0	I	Input of serial data from other than CXD1914
108	TxDO1	O	Output of serial data to other than CXD1914
109	RxD1	I	Input of serial data from CXD1914
110	TxD1	O	Output of serial data to CXD1914
111	SCK0	O	Output of serial clock to other than CXD1914
112	SCK1	O	Output of serial clock to CXD1914

SECTION 6
TEST MODE

6-1. Starting up Test Mode

With the DVP-S3000 in standby status, press [TIME], [CLEAR], and [POWER] keys on the standard commander in this order. And, the Test mode starts up and the initial menu shown in Figure 1 appears on the video display.

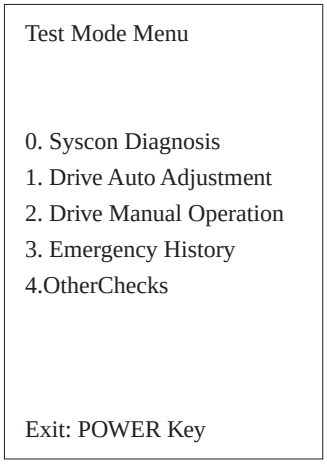


Figure 1 Initial menu

In the Test mode, necessary operations are all done with the keys on standard commander or operation panel.
The test mode can be finished and the set returns to the power off status when the [POWER] key is pressed whichever mode, except during checking of Syscon Diagnosis, you are working in now.

6-2. Syscon Diagnosis

In the Syscon Diagnosis, intermittent blocks such as 0-ff, 500-5ff, a00-aff, f00-fff, 1400-14ff, etc. (address) are checked. All of the operation are done with standard commander keys, and a menu cannot be selected but all items are checked. After result display, you can only select either “continue to next item” or “cancel”, and continue and retry in case of written data error are not available.

If [0] key on standard commander is pressed during initial menu display, the Diagnosis screen as shown in Figure 2 is displayed, and a checking starts from the top of diagnosis check items list sequentially. After a checking started, standard commander keys are accepted while a message or title is blinking, so that you can go to the next job.

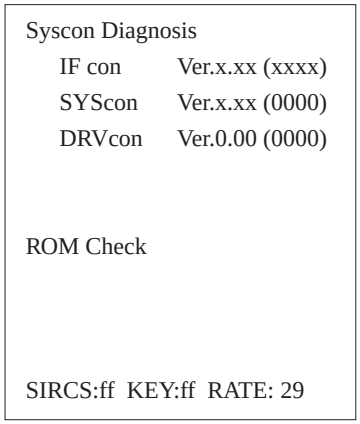
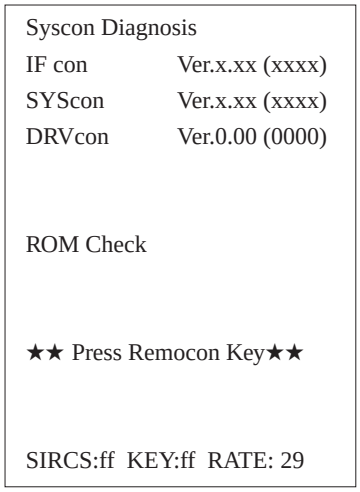


Figure 2

In this mode, ROM revision number (Ver. No.) of each control IC (MPU) and its checksum are displayed. However, Syscon checksum and Drvcon value are obtained in the process of diagnosis check, and therefore they are initially 0.
On the fifth line, an item is displayed, and IF control information is displayed at the bottom though it is not related to a checking of each item.
If Syscon Diagnosis is selected, a checking starts immediately, and the result of initial ROM check and Syscon ROM checksum are displayed as shown in Figure 3.



← Data in ( ) indicates Syscon checksum

Figure 3

Confirm the result, and to cancel checking, press [RETURN], [MENU], or [POWER]. Or, to continue next checking, press other than these keys.
The ROM revision and checksum of Drvcon are displayed when executing “DrvCon Data Exchange” and “DrvCon EPROM” respectively.
Also, in case of an error, the error code and information are displayed as shown in Figure 4.

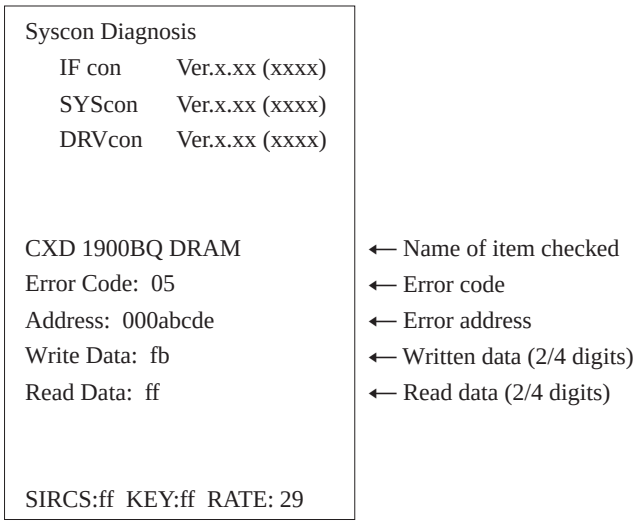


Figure 4

Except error code “05” (write/read data mismatch error), the address and data fields show “0”. When a checking is over or cancelled, “Diag OK” or “Diag Error End” message blinks. If a key is pressed here, the test mode initial menu is resumed. The “Diag Error End” is displayed only when the Syscon detects an error, and visual inspection result is out of the display.

6-2-1. General description of checking method

This section describes briefly a checking method for each item in the order of menus.
Numbers in ( ) for respective items are diagnosis item numbers.

(2) Memory

(2-2) Syscon ROM (IC093) check

Calculation of checksum

Calculation range: 0x00000000 - 0x000fffff (at commercial products, 8Mbit ROM)
All 8bit data from address 0 to ROM size are added (checksum), and output as 4-digit hexadecimal number.
In this check, the IC090 (Syscon) itself does not detect an error. The result is displayed on the screen. Compare it with original ROM checksum.

(2-3) Syscon RAM (IC094) check

IC093 (Syscon ROM) ⟶ IC094 (Syscon RAM) collating check

Checking range: 0x01000000 - 0x0101ffff

IC093 (Syscon ROM) data (program codes) are transferred in DMA mode in the unit of 64 bytes to the IC094 (Syscon RAM), then they are read every 1 byte and compared with data in IC093. As the Syscon RAM check is made by saving the data into internal RAM (DMA transfer), the data are written and read every 64 bytes, and interruption during that time is completely masked.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed. Select the subsequent processing by pressing a key. As this check is made through DMA transfer, if Repeat is selected, the data are transferred in DMA mode again to the block where this error occurred and a checking is continued from the error address.

(3) Clock

(3-2) Audio clock system output switching (CD side)

I/O output

The audio clock system is switched to the CD side. In this check, the Syscon itself does not detect an error. Observe output signals with an instrument.

(3-3) Audio clock system output switching (DVD side)

I/O output

The audio clock system is switched to the DVD side. In this check, the Syscon itself does not detect an error. Observe output signals with an instrument.

(4) Drvcon

(4-2) Drvcon (IC136) reset check

Hard Reset ⟶ DRV BUSY response input

The Hard Reset signal is output, and after cancelling the reset, whether DRV BUSY signal changes from “low” to “high” is checked. The detection timing of DRV BUSY “low” is about 250 msec after the reset is cancelled. Also, whether the signal becomes “high” later is checked.

After confirming “high” or “low” of DRV BUSY signal 250 msec after reset was cancelled, if the signal does not go “high” though about 300 msec elapsed, the reset error 02 is output.

(4-3) Drvcon common RAM (IC138) check

IC093 (Syscon ROM) ⟶ IC138 (common RAM) collating check

Checking range: 0x03000001 - 0x03000fff

After confirming that the RAM areas common to Drvcon are not occupied by Drvcon (namely, the contents of common RAM addresses are true), the IC093 (Syscon RAM) codes are copied to the IC138 (common RAM) areas from address 1, then the data are read for checking. If all are same, the IC093 code bits are inverted and checked again. If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.
After checking, reset the Drvcon because irregular values are written to the IC138.

If common RAM areas are occupied by Drvcon and they are not opened even after about 2 seconds, the write error 03 is output.

(4-4) Drvcon data exchange check

IC090 (Syscon) ⟶ IC136 (Drvcon), IC136 (Drvcon) ⟶ IC090 (Syscon) command path check

The path check command is sent from IC090 (Syscon) to IC136 (Drvcon), and as a result, whether the data same as sent data is returned to the IC138 (common RAM) is checked. In the Syscon Diagnosis, only the ROM revision is displayed. If no response is returned from Drvcon or the data are not same, the error code 73 is output.

(4-5) Drvcon interrupt line check

IC136 (Drvcon) ⟶ IC090 (Syscon), IC090 (Syscon) ⟶ IC136 (Drvcon) interrupt line check

If CXD8663Q check command is sent from IC090 to IC136, the IC136 returns IC181 (CXD8663Q) register read/write command.
Receiving this command, the IC090 outputs a response signal implying that the interrupt signal was received, then the IC136 confirms this signal input and writes the Command Done to the IC138 (common RAM).
When the Command Done is not returned even after 1 second, the error code 70 (DRV INT is not detected) is output if the interrupt signal has not been received, or the error code 71 (Drvcon does not recognize SYS INT) is output if the interrupt signal has been received.
Also, upon detection of an error in IC181 (CXD8663Q) by this command, the error code 30 is output.

If DRV INT signal is kept “low”, the Syscon repeats an interrupt processing continuously, thus making error display impossible. For this reason, only for this command, the Drvcon returns the DRV INT signal to “high” even if SYS INT is not detected. (The Syscon makes judgment whether Command Done is returned or not.)
Here, if the Syscon makes no response, the DRV INT signal itself will be faulty.

(4-6) Drvcon SRAM check

IC090 (Syscon) ⟶ IC136 (Drvcon) check request command

The SRAM check command is sent from IC090 to IC136, and its response result is displayed.
In case of an error, the error information of Drvcon is read, then the error code 05, error address, written data, and read data are displayed.

(4-7) EEPROM check

IC090 (Syscon) ⟶ IC136 (Drvcon) check request command

The EEPROM check command is sent from IC090 to IC136, and its response result is displayed.
The error code 74 when IC139 (EEPROM) write signal is not ready, or error code 05 when written data and read data are not same, error address, written data, and read data are displayed.

(4-8) RF Processor check

IC090 (Syscon) ⟶ IC136 (Drvcon) check request command

The RF processor check command is sent from IC090 to IC136, and its response result is displayed.
In case of an error in IC770 (RF processor), the error code 76 is output.

(4-9) CXD2545 RAM check

The CXD2545 check command is sent from IC090 to IC136, and its response result is displayed.
In case of an error in IC717 (CXD2545), the error code 75 is output.

(4-10) Drvcon ROM check

IC090 ⟶ IC136 check request command

The EPROM check command is sent from IC090 to IC136.
The Drvcon calculates checksum of IC140 (EPROM), and returns its result and the checksum value is displayed, if there is no error.
Compare the result displayed on the screen with the checksum of original EPROM.

(4-11) VCO offset automatic adjustment

IC090 ⟶ IC136 check request command

The VCO offset automatic adjust command is sent from IC090 to IC136.
If automatic adjustment failed, the error code 77 is output.

(5) Data supply system

(5-2) IC217 (CXD8598R) reset check

Write to register ⟶ Hard reset ⟶ Read from register

Registers to be checked: TSC2 (0x06200011)
TSC1 (0x06200012)
TSC0 (0x06200013)

Data other than 0 are written to readable and writable registers in IC217 (CXD8598R), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.

(5-3) IC217 (CXD8598R) register check

Register write ⟶ Register read collating check

Registers to be checked: TSC2 (0x06200011)
TSC1 (0x06200012)
TSC0 (0x06200013)

Incrementing 1 each starting from 0, data are written to readable and writable registers, then they are read for checking. Incrementing initial value by 1 each, a check is repeated 256 times.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.

(5-4) IC181 (CXD8663Q) reset check

Write to register ⟶ Hard reset ⟶ Read from register

Register to be checked: INTRMASK (0x22)

Data other than 0 are written to readable and writable register in IC181 (CXD8663Q), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.

(5-5) IC181 (CXD863Q) register check

Register write ⟶ Register read collating check

Register mask data to be checked

0x20	0xbf
0x22	0xff
0x25	0xff
0x26	0xff
0x27	0xff

Incrementing 1 each starting from 0, data are written to readable and writable registers, then they are read for checking. Incrementing initial value by 1 each, a check is repeated 256 times. However, some bits that cannot be written are masked.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.

(5-6) IC181 (CXD8663Q) DRAM check

ROM ⟶ IC181 (CXD8663Q) ⟶ DRAM ⟶ IC181 (CXD8663Q) read collating check

Checking range: 0x00000000 - 0x0007ffff

ROM pattern is copied to all areas to be checked. Each time 256 bytes are copied, 255 bytes of original (ROM) address are returned. A reading check is made after data are written to all areas.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.

(5-7) IC181 (CXD8663Q) interrupt line check

IC093 (Syscon ROM) ⟶ IC181 (CXD8663Q) ⟶ IC217 (CXD8598R)

DVD bit stream data stored in IC093 are transferred to the IC182 (external DRAM of IC181), and the SD bus sector header detect interruption is checked, which occurs by flowing data to the IC217 (CXD8598R).
If the header of SD bus sector in IC181 (CXD8663Q) is not detected, the error code 31 is output.

As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to “high” before checking.

(5-8) IC181 (CXD8663Q) to IC217 (CXD8598R) connection check

IC093 (Syscon ROM) ⟶ IC181 (CXD8663Q) ⟶ IC217 (CXD8598R)

DVD bit stream data stored in IC093 are transferred to the IC182 (external DRAM of IC181), and IC217 (CXD8598R) transfer end interruption is checked, which occurs by flowing data to the IC217 (CXD8598R). If the transfer end interruption is not detected, the error code 21 is output.
As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to “high” before checking.

(5-9) IC184 (CXD8669AQ) reset check

Write to register ⟶ Hard reset ⟶ Read from register

Register to be checked: SYSINI (0xe1)

Data other than 0 are written to readable and writable register in IC184 (CXD8669AQ), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.

(5-10) IC184 (CXD8669AQ) register check

Register write ⟶ Register read collating check

Register mask data to be checked

0xe0	0x80
0xe1	0xff
0xe4	0xc0
0xe5	0xc0
0xe6	0xf8

Incrementing 1 each starting from 0, data are written to readable and writable registers, then they are read for checking. Incrementing initial value by 1 each, a check is repeated 256 times. However, some bits that cannot be written are masked.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.

(5-11) IC216 (CXD1186) reset check

Write to register ⟶ Hard reset ⟶ Read from register

Registers to be checked: DADRC_L (0x06380007)
DADRC_H (0x06380008)
HXFRC_L (0x06380009)
HXFRC_H (0x0638000A)
HADRC_L (0x0638000B)
HADRC_H (0x0638000C)

Data other than 0 are written to readable and writable register in IC216 (CXD1186), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.

(5-12) IC216 (CXD1186) register check

Register write ⟶ Register read collating check

Registers to be checked: DADRC_L (0x06380007)
DADRC_H (0x06380008)
HXFRC_L (0x06380009)
HXFRC_H (0x0638000A)
HADRC_L (0x0638000B)
HADRC_H (0x0638000C)

Incrementing 1 each starting from 0, data are written to readable and writable registers, then they are read for checking. Incrementing initial value by 1 each, a check is repeated 256 times.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.

(5-13) IC216 (CXD1186) SRAM check

IC093 (Syscon ROM) ⟶ IC216 (CXD1186) ⟶ IC215 (SRAM) ⟶ IC216 read collating check

Checking range: 0x00000000 - 0x00007fff

IC093 ROM pattern is copied to all areas to be checked. Each time 256 bytes are copied, 255 bytes of original (ROM) address are returned. A reading check is made after data are written to all areas.
After SRAM write addresses are set, error code 03 when writing is not ready, or after read addresses are set, error code 04 when reading is not ready is output, then a check is finished.
Also, if compared data are not same, a check is suspended, and error code 05, its address, written data, and read data are displayed.

(5-14) IC216 (CXD1186) to IC217 (CXD8598R) connection check

IC093 (ROM) ⟶ IC216 (CXD1186) ⟶ IC217 (CXD8598R)

VCD bit stream data stored in IC093 are transferred to the IC215 (external SRAM of IC216), and IC217 (CXD8598R) transfer end interruption is checked, which occurs by flowing data to the IC217 (CXD8598R).
If the transfer end interruption is not detected, the error code 21 is output.
Further, SCR is read to check its value. If the value is not the one in sector transferred, the error code 22 is output.

(6) Video Decoder

(6-2) IC281 (CXD1900BQ) reset check

Write to register ⟶ Hard reset ⟶ Read from register

Register to be checked: PLYMOD (0x06080002)

Data other than 0 are written to readable and writable register in IC281 (CXD1900BQ), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.

(6-3) IC281 (CXD1900BQ) register check

Register write ⟶ Register read collating check

Register to be checked: PLYMOD (0x06080002)

Incrementing 1 each starting from 0, data are written to readable and writable register, then they are read for checking. Incrementing initial value by 1 each, a check is repeated 256 times. However, some bits that cannot be written are masked.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed.

(6-4) IC281 (CXD1900BQ) DRAM check

IC093 (ROM) ⟶ IC281 ⟶ IC280, IC282 ⟶ NIC284 (DRAM) ⟶ IC281 read collating check

Checking range: 0x00000000 - 0x0003ffff (data bus width = 64bits)

IC093 ROM pattern is copied to all areas to be checked. Because of large DRAM capacity, each time 256 bytes are copied, 255 bytes of original (IC093) address are returned. A reading check is made after data are written to all areas.
The error code 03 when writing is not ready, or error code 04 when reading is not ready is output, then a check is finished.
Also, if compared data are not same, a check is suspended, and error code 05, its address, written data, and read data are displayed. However, the data are displayed every 8 bits, though the bus width of IC281 (CXD1900BQ) is 64 bits. Namely, actual address is the displayed value shifted by 3 bits to the right where lower 3 bits indicate the byte position.
For example, in the case of display shown below:

IC281 (CXD1900BQ) DRAM
Error Code: 05
Address: 000abcde
Write Data: fb
Read Data: ff

If displayed value 0 0 0 A B C D E is expressed with binary number, 0000 0000 0000 1010 1011 1100 1101 1110.
If it is shifted by 3 bits to the right, 0000 0000 0000 0001 0101 0111 1001 1011 110. That is, assuming that the top of address 0 0 0 1 5 7 9 B in hexadecimal notation is 0th byte, the 6th byte is erroneous such as FB ⟶ FF (as for the bit position in the same manner, the 53rd bit is 0 ⟶ 1, assuming that MSB is 0th and LSB is 63rd).

(6-5) CXD1914 VSync check

IC475 (CXD1914Q) VSync interrupt cycle measurement

The VSync interruption is enabled for about 160msec, and the number of VSync interruption from NTSC encoder is counted. The operation is normal if the count is more than 9 times and less than 11 times. If out of this range, the error code 41 is output.
The SCI1 interruption is also enabled, as the NTSC encoder processing is required due to VSync interruption.

(6-6) IC281 (CXD1900BQ) VSync interrupt line check

IC281 (CXD1900BQ) VSync interrupt detection check

The VSync interruption of IC281 (CXD1900BQ) is enabled and whether interruption is made is checked. If no interruption is made though 2 seconds elapsed, the error code 41 is output.

(6-7) IC217 (CXD8598R) to IC281 (CXD1900BQ) connection

check

IC093 → IC216 → IC215 → IC216 → IC217 → IC281 → IC280,
IC282 ~ NIC284

VCD bit stream data stored in IC093 are transferred via IC216 (CXD1186) to the IC215 (SRAM), and the sequence header interruption and transfer end interruption from IC281 are checked, which occur by flowing data to the IC281 (CXD1900BQ) via IC216 (CXD1186) and IC217 (CXD8598R).
The error code 21 when transfer end interruption for transferred sectors is not detected, or error code 42 when sequence header interruption is not detected is output.

(7) Subpictures

(7-2) IC312 (CXD8600R) reset check

Write to register → Hard reset → Read from register

Register to be checked: WRITE_READ_TOP (0x06000050)

Data other than 0 are written to readable and writable register in IC312 (CXD8600R), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.

(7-3) IC312 (CXD8600R) register check

Register write → Register read collating check

Registers to be checked: VB_LUMINANCE (0x06000050)
VB_LUMINANCE+1
VB_LUMINANCE+2
VB_LUMINANCE+3
VB_LUMINANCE+4
VB_LUMINANCE+5
VB_LUMINANCE+6
VB_LUMINANCE+7
VB_LUMINANCE+8
VB_LUMINANCE+9
VB_LUMINANCE+A
VB_LUMINANCE+B
VB_LUMINANCE+C
VB_LUMINANCE+D
VB_LUMINANCE+E
VB_LUMINANCE+F

The values written to the registers in IC312 (CXD8600R) are read from the same address WRITE_READ_TOP in any registers. Therefore, the Diagnosis function cannot read data after data were written to all registers. A checking is made by reading every register.
If compared data are not same, a check is suspended, and error code 05, its address, written data, and read data are displayed.

(7-4) IC312 (CXD8600R) SRAM check

IC093 (ROM) → IC312 (CXD8600R) → IC313, IC319 (SRAM) → IC312 read collating check

Checking range: 0x00000001 - 0x0003ff000

The IC312 (CXD8600R) cannot designate read/write address of SRAM. Internal pointer manages the addresses automatically. Accordingly, the reading order is same as the writing order.
IC093 pattern is copied to all areas to be checked. Each time 256 bytes are copied, 255 bytes of original (IC093) address are returned. A reading check is made after data are written to all areas. As the Syscon Diagnosis is a simplified check, actual check range is 1/5 of the above mentioned checking range.
Unlike other RAM checks, the addresses are not skipped. The address 0 in each area has specific meaning, and therefore arbitrary data cannot be written.
After the fixed data is written to address 0, a check starts from address 1, and the last 255 bytes are not checked because of a complicated program.
If compared data are not same, a check is suspended, and error code 05, its address, written data, and read data are displayed.
However, IC312 (CXD8600R) cannot designate an address, and the repeat check is ignored.
Also, in case of an error in VB, 0x10000000 is added to the address for explicit discrimination.

(7-5) IC217 (CXD8598R) to IC312 (CXD8600R) connection check

IC093 (ROM) → IC181 (CXD8663Q) → IC217 (CXD8598R) → IC312 (CXD8600R)

The bit stream data including subpictures stored in IC093 (ROM) are transferred to the IC182 (external DRAM of IC181). Then, SP Arrive signal from IC312 is checked, which is generated by flowing the data to the IC312 (CXD8600R) via IC217 (CXD8598R).
The error code 61 is output when data arrival cannot be confirmed though 2 seconds elapsed after data transfer request was sent to the IC181 (CXD8663Q).

As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to “high” before checking.
When an error occurred, confirm (5-8) IC181 (CXD8663Q) to IC217 (CXD8598R) connection check.

(7-6) IC312 (CXD8600R) interrupt line check

IC093 (ROM) → IC181 (CXD8663Q) → IC217 (CXD8598R) → IC312 (CXD8600R)

The bit stream data including subpictures stored in IC093 (ROM) are transferred to the IC182 (external DRAM of IC181). Then, the PTS interrupt is checked, which occurs by flowing the data to the IC312 (CXD8600R) via IC217 (CXD8598R).
The error code 62 is output when an interruption cannot be confirmed though 2 seconds elapsed after data transfer request was sent to the IC181 (CXD8663Q).
As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to “high” before checking.
When an error occurred, confirm (5-8) IC181 (CXD8663Q) to IC217 (CXD8598R) connection check.

(8) Video Related

(8-2) Video encoder check (color bar output)

The color bar is turned on for the NTSC encoder color bar enable command IC475 (NTSC encoder).
In this check, the Syscon itself does not detect an error.
Confirm the video display screen.

(8-3) Video output check

IC093 (ROM) → IC216 (CXD1186) → IC217 (CXD8598R) → IC281 (CXD1900BQ) → Video signal output

The bit stream data of still picture stored in IC093 (ROM) are transferred to the IC215 (SRAM of IC216), then the picture is displayed on the video screen by flowing data to the IC281 (CXD1900BQ) via IC217 (CXD8598R). If an error is present in any path, that code is output and a checking is finished.
If no error is found, the controller waits for key entry.
Check the video display screen.

(8-4) IC310 (CXD8602Q) check (letter box output)

IC093 (ROM) → IC216 (CXD1186) → IC217 (CXD8598R) → IC281 (CXD1900BQ) → IC310 (CXD8602Q) → Video signal output

The bit stream data of still picture stored in IC093 (ROM) are transferred to the IC215 (SRAM of IC216), then the picture is displayed on the video screen by flowing data to the IC281 (CXD1900BQ) via IC217 (CXD8598R). In such a case, the letter box on command is output on the IC310 (CXD8602Q).
If no error is found, the controller waits for key entry.
Check the video display screen.

(8-5) Video equalizer check (brightness control)

IC093 (ROM) → IC216 (CXD1186) → IC217 (CXD8598R) → IC281 (CXD1900BQ) → IC317 (CXD8664Q) → Video signal output

The bit stream data of still picture stored in IC093 (ROM) are transferred to the IC215 (SRAM of IC216), then the picture is displayed on the video screen by flowing data to the IC281 (CXD1900BQ) via IC217 (CXD8598R).
If no error is found, the brightness change command is sent to the IC317 (CXD8664Q). The controller waits for key entry after changing the brightness twice.
Confirm that the brightness of video display screen changes.

(8-6) Subpicture output check

IC093 (ROM) → IC181 (CXD8663Q) → IC217 (CXD8598R) → IC312 (CXD8600R) → Video signal output

The bit stream data including subpicture stored in IC093 (ROM) are transferred to the IC312 (CXD8600R) via IC181 (CXD8663Q) and IC217 (CXD8598R), and the picture is displayed on the video screen unless an error is found.
Check the video display screen.

(8-7) S-terminal output check (0V)

I/O output

Make S-terminal output potential 0V.
In this check, the Syscon itself does not detect an error.
Observe the potential at the S-terminal with an instrument.

(8-8) S-terminal output check (5V)

I/O output

Make S-terminal output potential 5V.
In this check, the Syscon itself does not detect an error.
Observe the potential at the S-terminal with an instrument.

(8-9) S-terminal output check (2.5V)

(9) Audio Related

(9-2) IC380 (CXD8603R) reset check

Write to register → Hard reset → Read from register

Register to be checked: RAADRS (0x06100004)

Data other than 0 are written to readable and writable register in IC380 (CXD8603R), and they are read after hard reset, then the error code 02 is output if they are not cleared to 0.
Though this register has 16-bit length, MSB is always 0.

(9-3) IC380 (CXD8603R) register check

Register write → Register read collating check

Register to be checked: RAADRS (0x06100004)

Incrementing 1 each starting from 0, data are written to readable and writable register, then they are read for checking. Incrementing initial value by 1 each, a check is repeated 32768 times.
If compared data are not same, a checking is suspended, and error code 05, its address, written data, and read data are displayed. Because of 16-bit length, 4-digit data is displayed (however, MSB is always 0).

(9-4) IC380 (CXD8603R) SRAM check

IC093 (ROM) → IC380 (CXD8603R) → IC383 (SRAM) → IC380 read collating check

Checking range: 0x00000000 - 0x00007fff

IC093 (ROM) pattern is copied to all areas to be checked. Each time 256 bytes are copied, 255 bytes of original (IC093) address are returned. A reading check is made after data are written to all areas.
The data write/read to IC383 (SRAM) are executed every 256 bytes using the direct access function of the IC380 (CXD8603R). If compared data are not same, a checking is
suspended, and error code 05, its address, written data, and read data are displayed.

(9-5) IC217 (CXD8598R) to IC380 (CXD8603R) connection check

IC093 (ROM) ⟶ IC216 (CXD1186) ⟶ IC217 (CXD8598R) ⟶ IC380 (CXD8603R) SRAM read collating check

The bit stream data of MPEG-AUDIO stored in IC093 (ROM) are transferred by only one sector to the IC215 (external SRAM of IC216), then they are flown to the IC380 (CXD8603R) via IC217 (CXD8598R).
If no error is found, the data are transferred to the SRAM in IC380 (CXD8603R) and compared with original ROM data.
The first 512 bytes in code buffer are read from IC380 (CXD8603R) SRAM into internal RAM of CPU, and whether 256 byte pattern after 12th bytes in effective area of MPEG-AUDIO bit stream data stored in ROM is contained is searched. If not found, the pattern to be searched is shifted one byte each, and a searching is repeated maximum 256 times. The check passed if 256 bytes are same successively.
If same pattern is not found, the error code 10 is output.

(9-6) Audio decoder boot check

AC-3 codes are downloaded to the audio decoder.

The error code 50 if download is not terminated successfully, or error code 51 if AC-3 codes downloading failed is output.
When an error occurred here, the subsequent audio related diagnosis may be rejected, resulting in unconditional output of error code 50.

(9-7) IC380 (CXD8603R) interrupt line check

IC093 (ROM) ⟶ IC181 (CXD8663Q) ⟶ IC217 (CXD8598R) ⟶ IC380 (CXD8603R)

The bit stream data including Navi Pack stored in IC093 (ROM) are transferred to the DRAM of IC181 (CXD8663Q). Then, the Navi Ready interruption is checked, which occurs by flowing the data to the IC380 (CXD8603R) via IC217 (CXD8598R).
The error code 55 is output when an interruption cannot be confirmed though 2 seconds elapsed after data transfer request was sent to the IC181 (CXD8663Q).
As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to “high” before checking.
When an error occurred, confirm (5-8) IC181 (CXD8663Q) to IC217 (CXD8598R) connection check.

(9-8) DREQ/NCST check

IC093 (ROM) ⟶ IC181 (CXD8663Q) ⟶ IC217 (CXD8598R) ⟶ IC380 (CXD8603R) read data pattern check

The bit stream data including Navi Pack stored in IC093 (ROM) are transferred to the DRAM of IC181 (CXD8663Q). Then, the data are flown to the IC380 (CXD8603R) via IC217 (CXD8598R).
The error code 55 is output when Navi Ready interruption cannot be confirmed though 2 seconds elapsed after data transfer request was sent to the IC181 (CXD8663Q).
As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to “high” before checking.
When an error occurred, confirm (5-8) IC181 (CXD8663Q) to IC217 (CXD8598R) connection check.

If no error is found, the Navi Pack transferred to the SRAM in IC380 (CXD8603R) is read for checking.
The error code 10 is output if the data are not same as original bit stream data.

(9-9) MPEG audio digital output check

IC093 (ROM) ⟶ IC216 (CXD1186) ⟶ IC217 (CXD8598R) ⟶ IC380 (CXD8603R) ⟶ Digital Audio I/F audio signal output

The bit stream data of MPEG-Audio stored in IC093 (ROM) are transferred to the IC216 (CXD1186). Then, the data are flown to the Digital Audio Interface via IC217 (CXD8598R) and CK to regenerate audio signals.
For the data, audio frequencies are different between left and right channels. Using left and right channels mixing function, the same stream is checked three times in the order of left channel, right channel, and both channels on.
In this diagnosis, the kind of expected errors is many because of complicated paths, but the diagnosis is finished upon detection of an error.
Confirm the content of error from the error code list.
If no error is detected, a sound is generated three times, then a message is output and the controller waits for key entry.

(9-10) MPEG audio analog output check

IC093 (ROM) ⟶ IC216 (CXD1186) ⟶ IC217 (CXD8598R) ⟶ CK ⟶ Analog Audio I/F audio signal output

The bit stream data of MPEG-Audio stored in IC093 (ROM) are transferred to the IC216 (CXD1186). Then, the data are flown to the Analog Audio Interface via IC217 (CXD8598R) and CK to regenerate audio signals.
For the data, audio frequencies are different between left and right channels. Using left and right channels mixing function, the same stream is checked three times in the order of left channel, right channel, and both channels on.
In this diagnosis, the kind of expected errors is many because of complicated paths, but the diagnosis is finished upon detection of an error.
Confirm the content of error from the error code list.
If no error is detected, a sound is generated three times, then a message is output and the controller waits for key entry.

(9-11) Audio attenuator check

IC093 (ROM) ⟶ IC216 (CXD1186) ⟶ IC217 (CXD8598R) ⟶ IC380 (CXD8603R) ⟶ Analog Audio I/F audio signal output

The bit stream data of MPEG-Audio stored in IC093 (ROM) are transferred to the IC216 (CXD1186). Then, the data are flown to the Analog Audio Interface via IC217 (CXD8598R) and IC380 (CXD8603R) to regenerate audio signals.
In such a case, DAC attenuation value is set to 1/4 of normal value to lower the volume.
For the data, audio frequencies are different between left and right channels. Using left and right channels mixing function, the same stream is checked three times in the order of left channel, right channel, and both channels on.
In this diagnosis, the kind of expected errors is many because of complicated paths, but the diagnosis is finished upon detection of an error.
Confirm the content of error from the error code list.
If no error is detected, a sound is generated three times, then a mes-

sage is output and the controller waits for key entry.
Check if the volume level becomes lower (about half) than that in (9-10).

(9-12) AC-3 audio output check

IC093 (ROM) → IC181 (CXD8663Q) → IC217 (CXD8598R) → IC380 (CXD8603R) → Audio signal output

The bit stream data including AC-3 audio stored in IC093 (ROM) are transferred to the DRAM of IC181 (CXD8663Q). Then, the data are flown to the IC380 (CXD8603R) via IC217 (CXD8598R) to regenerate audio signals.
As SERR signal from IC181 (CXD8663Q) to IC217 (CXD8598R) is not initialized, this signal line is shut off and fixed to "high" before checking.
This diagnosis turns on all channels to turn on both analog and digital outputs.
If no error is detected, a sound is generated, then a message is output and the controller waits for key entry.

○ Diagnosis Error code list

01: A mode not supported was selected
02: Reset error
03: Data write error
04: Data read error
05: Written and read data are not same

10: Data transfer error between chips
12: Stop by time out

21: IC217 (CXD8598R) transfer end interrupt is not detected
22: IC217 (CXD8598R) SCR not same

30: Drvcon detects an error in IC181 (CXD8663Q)
31: IC181 (CXD8663Q) SD bus sector header is not detected

41: Vsync interrupt is not detected
42: Sequence header is not detected

50: Audio related chips initialize error
51: Audio stream change error
52: Audio decoder is not in play mode
53: Audio decoder is not in stop mode
54: IC380 (CXD8603R) chip PTS is not detected
55: IC380 (CXD8603R) chip NAVI is not detected
56: No data arrives at IC380 (CXD8603R) chip code buffer
57: No data in IC380 (CXD8603R) chip code buffer is consumed

61: No sub-picture data arrives
62: Sub-picture PTS is not detected

70: DRV INT is not detected
71: Drvcon does not recognize SYS INT
72: Drvcon does not make a response
73: Drvcon communication data error
74: Drvcon EEPROM busy time out
75: Drvcon CXD2545 NG
76: Drvcon RF processor NG
77: Drvcon VCO preset NG

90: Error judged by inspector
91: Check of this item is cancelled by key entry
92: Check of all items is cancelled by key entry

99: Other errors

6-3. Drive Auto Adjustment

The drive can be automatically adjusted, except disc change and tangential skew adjustment. For a disc, use the disc for adjustment. In case of abnormality, press the [stop] key to stop adjustment.
If the drive does not stop, prevent secondary failure by taking proper action such as disconnection of the power cable. This adjustment should be made after repair is finished and no trouble is present in the drive.
A trouble, if present, causes NG and the adjustment to be aborted. As the secondary failure could occur, perform automatic adjustment after the drive is completely repaired.

With the initial menu displayed, press [1] on standard commander, and the screen as shown in Figure 5 will appear.

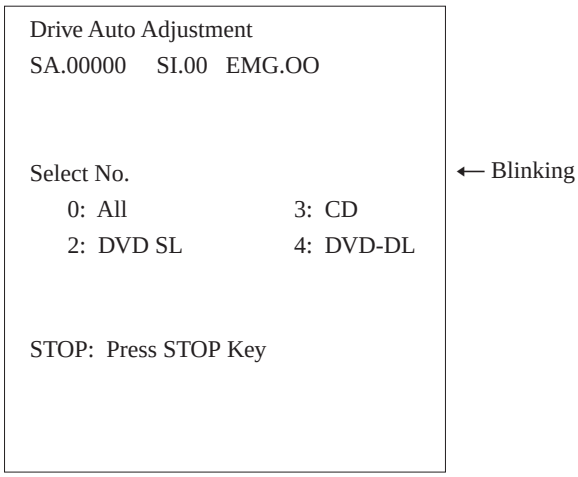


Figure 5

If “All” is selected, the screen shown in Figure 6 is displayed.

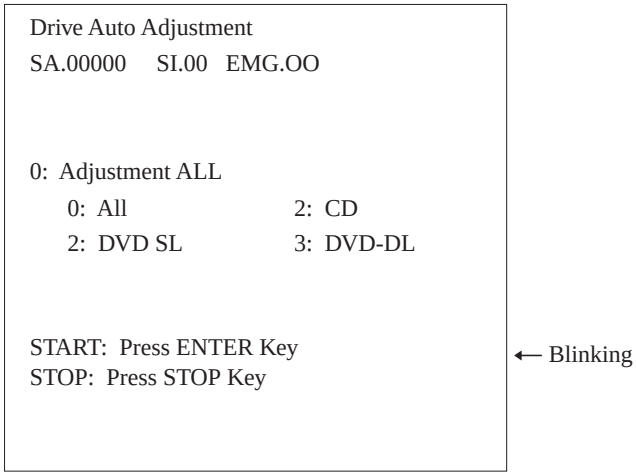


Figure 6

The tray opens after the ENTER key is pressed and the initialization is finished. Then, place the DVD_SL disc for adjustment. Press the ENTER key to start adjustment. During adjustment, the tangential skew adjustment screen is displayed. Make this adjustment only when the pickup was replaced.
As for adjustment, rotate the T-SKEW adjusting screw on the pickup so that the displayed jitter becomes minimum (CCW makes jitter smaller). Avoid extreme rotation or interference of screwdriver with the disc. After adjustment, a message to apply a screw locking agent will be displayed if jitter value is within the specification. Then, apply a drip of locking agent to the recess of screw. Hence, change discs following the given messages on OSD, and the adjustment is finished if there is no problem.
Note that if “All” is selected, the data of previous adjustment are erased and initial values are set.

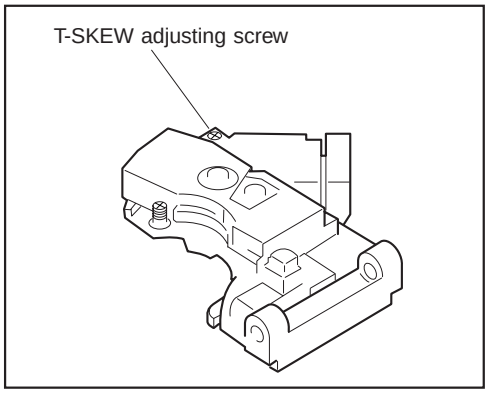
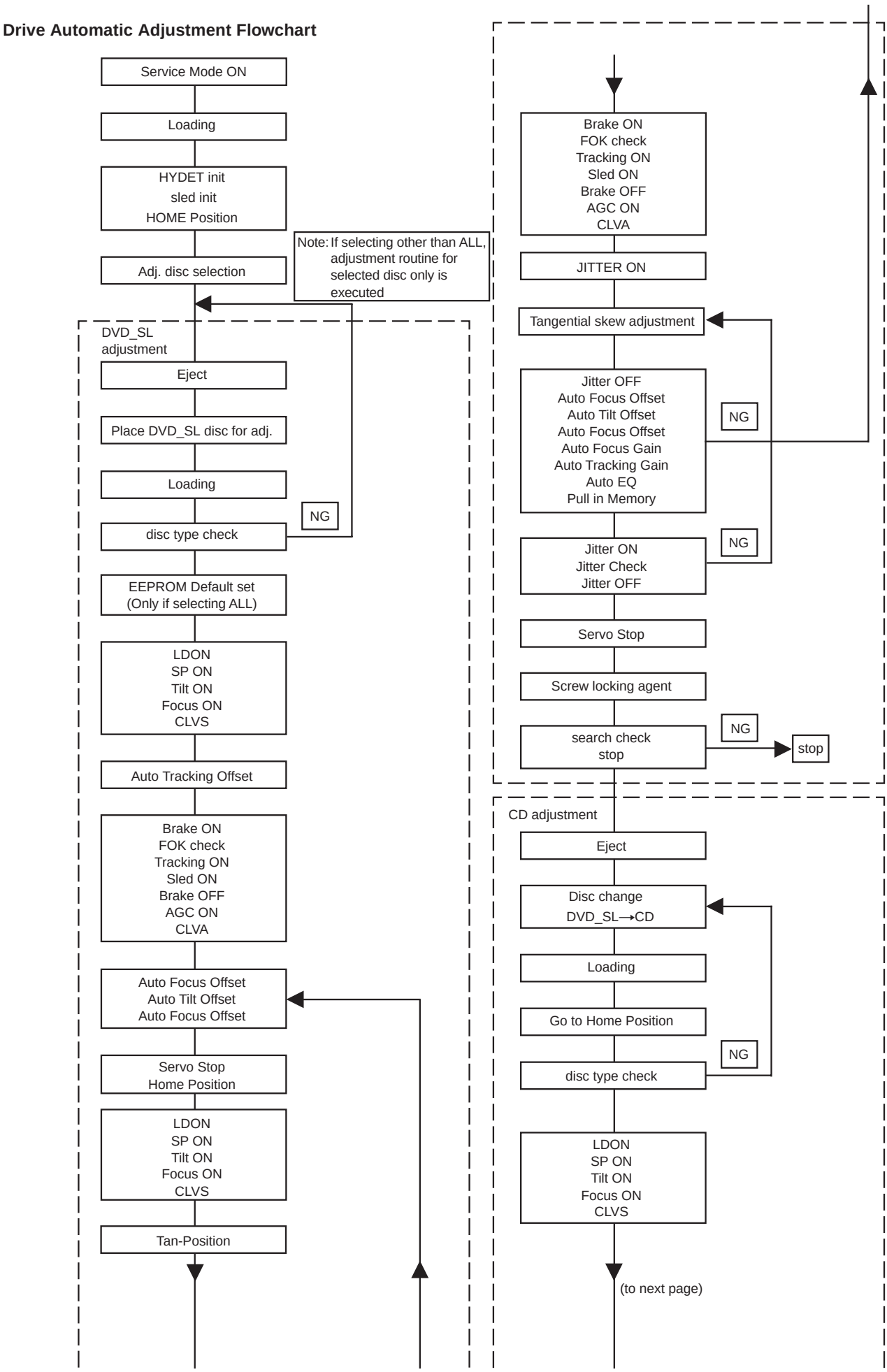
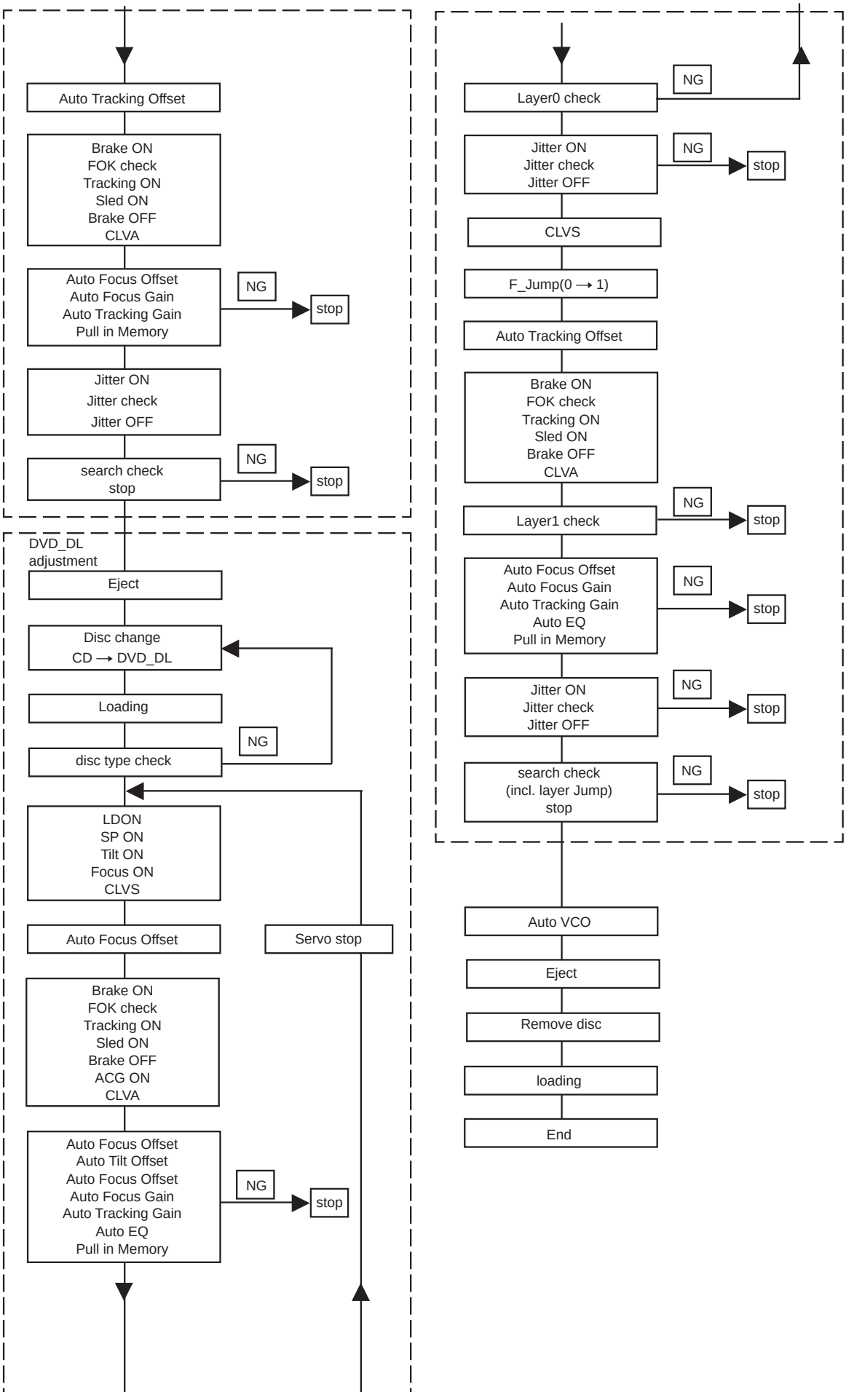


Figure 7

Drive Automatic Adjustment Flowchart




Auto Tracking Offset
Brake ON
FOK check
Tracking ON
Sled ON
Brake OFF
CLVA
Auto Focus Offset
Auto Focus Gain
Auto Tracking Gain
Pull in Memory
NG
stop
Jitter ON
Jitter check
Jitter OFF
search check
stop
NG
stop
DVD_DL
adjustment
Eject
Disc change
CD → DVD_DL
Loading
disc type check
NG
LDON
SP ON
Tilt ON
Focus ON
CLVS
Auto Focus Offset
Servo stop
Brake ON
FOK check
Tracking ON
Sled ON
Brake OFF
ACG ON
CLVA
Auto Focus Offset
Auto Tilt Offset
Auto Focus Offset
Auto Focus Gain
Auto Tracking Gain
Auto EQ
Pull in Memory
NG
stop
Layer0 check
NG
Jitter ON
Jitter check
Jitter OFF
NG
stop
CLVS
F_Jump(0 → 1)
Auto Tracking Offset
Brake ON
FOK check
Tracking ON
Sled ON
Brake OFF
CLVA
Layer1 check
NG
stop
Auto Focus Offset
Auto Focus Gain
Auto Tracking Gain
Auto EQ
Pull in Memory
NG
stop
Jitter ON
Jitter check
Jitter OFF
NG
stop
search check
(incl. layer Jump)
stop
NG
stop
Auto VCO
Eject
Remove disc
loading
End

6-4. Drive Manual Operation

In performing manual operation, observe the following points:
Select correct disc type on the Disc Type screen.
First, select “7. Check” and execute “4. Hydet init” and “5. Sled init”. (See Figure 9)
With the initial menu displayed, if [2] on standard commander is pressed, the screen shown in Figure 11 is displayed.
In case of abnormality, press [stop] immediately to stop operation and turn off the power.
Do not execute Auto Adjust while executing FG Pause.
Also, as these commands are not protected, take care not to press wrong key.

6-4-1. Drive Manual Operation Menu Screen

```
Drive Manual Operation

SA.000000        SI.00          EMG.00


0. Disc Type
1. Manual Control 1
2. Manual Control 2
3. Manual Control 3
4. Manual Adjust 1
5. Manual Adjust 2
6. Auto Adjust
7. Check
```

Figure 8

This screen provides a menu for manual operation, and you can go directly to each screen from here. To return to this screen from each screen, press the RETURN key.
For switching between respective screens, use the CLEAR key.

```
check

SA.000000        SI.00          EMG.00


0. SRAM Check
1. EEPRM Check
2. CDDET Check
3. EPROM Default
4. Hydet Init
5. Sled Init
6. EEPROM Data
```

Figure 9

6-4-2. Disc Type

```
Disk type

SA.000000        SI.00          EMG.00


0. DVD SL    12cm
1. CD        12cm
2. DVD DL    12cm
3. DVD SL    8cm
4. CD        8cm
5. DVD DL    8cm
6. Disc type check


DVD SL           12cm
```

Figure 10

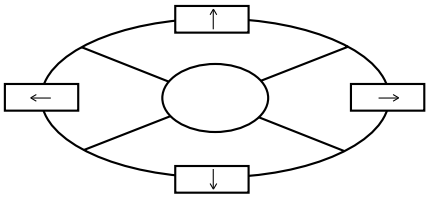
On this screen, select the type of disc used.
“6. Disc type check” judges the disc loaded. Confirm that judgment result meets the loaded disc type.
Judgment may fail if adjustment is not made yet immediately after EEPROM Default Set. The CD which is not cut up to the CD/VDV detection sensor position is judged as DVD. The optical system will be damaged if other disc is loaded after selecting DVD DL.

6-4-3. Manual Control 1

```
Manual Control 1

SA.000000        SI.00          EMG.00


0. LD        off          7. CLVS
1. SP        off          8. CLVA
2. Tilt      off          9. FG
3. Focus     off          →. Sled FWD
4. Brake     off          ←. Sled RVS
5. Track     off          ↑ . Tilt Up
6. Sled      off          ↓ . Tilt Down


DVD SL           12cm
```

Figure 11

On this screen, turn on/off servo operation items necessary for playing.
Normally, turn on the items from 1 sequentially, and normal trace is executed at CLVA. For the Brake, turn it off after turning on the Sled. During normal operation, AGC is turned on.



0. LD : Turn on/off the laser diode.
1. SP : Turn on/off the spindle.
   At SP ON, the spindle runs in constant velocity mode.
2. TILT : Turn on/off the tilt servo.
3. Focus : Focus searching is executed and focus is turned on.
   Operation is terminated if focus is not turned on after focus search is retried about 3 times.
4. Brake : Turn on/off the tracking brake.
   If turning on the tracking, turn on the brake.
   Also, turn off the brake during tracing.
5. Track : Turn on/off the tracking servo.
6. Sled : Turn on/off the sled servo.
7. CLVS : Spindle rough servo.
8. CLVA : Spindle normal servo.
9. FG : Spindle in constant velocity mode
→. : Move the sled system outside.
   Perform this with the tracking turned off.
←. : Move the sled system inside.
   Perform this with the tracking turned off.
↑. : Move the tilt system up.
↓. : Move the tilt system down.

6-4-4. Manual Control 2

Manual Control 2		
SA.000000	SI.00	EMG.00
0. AGC	off	5. FJ0 → 1
1. Pause	off	6. FJ1 → 0
2. FCS. Srch	off	7. LJ0 → 1
3. Defect	off	8. LJ1 → 0
4. Tilt_H	off	
DVDDL	12cm	

Figure 12

This screen will be used mainly for layer jump control.
Confirm the sector information (SI) so as not to mistake layer jump direction of DVD_DL.
The layer is 0 when SI is even number, or layer is 1 when odd number.
Wrong jump direction causes OPT failure.

0. AGC : Turn on/off focus error auto gain control on pull-in level.
1. Pause : Pause is made by executing track jump once per revolution.
2. FCS.Srch : The focus drive system is checked by applying same voltage to the focus drive as that in focus search.
3. Defect : Turn on/off defect.
4. Tilt H : Increase tilt gain.
5. FJ0 → 1 : After layer jump L0 → L1, tracking loop is not turned on.
6. FJ1 → 0 : After layer jump L1 → L0, tracking loop is not turned on.
7. LJ0 → 1 : After layer jump L0 → L1, tracking loop is turned on.
8. LJ1 → 0 : After layer jump L1 → L0, tracking loop is turned on.

6-4-5. Manual Control 3

Manual Control 3		
SA.000000	SI.00	EMG.00
0. FWD	ITJ	5. Eject
1. RVS	ITJ	6. Load
2. FWD	500TJ	7. Door Open
3. RDS	500TJ	8. Door Close
4. Home		
DVD SL	12cm	

Figure 13

On this screen, track jump, etc. are executed.

0. FWD 1TJ : Jump one track forward.
1. RVS 1TJ : Jump one track reversely.
2. FWD 500TJ : Jump 500 tracks forward (fine search).
3. RVS 500TJ : Jump 500 tracks reversely (fine search).
4. HOME : Move to home position.
5. Eject : Eject disc (not including door open). Execute this with the door left open.
6. Load : Load disc (not including door close)
7. Door Open : Open the front panel door.
8. Door Close : Close the front panel door. Execute this in the loading completed status.

6-4-6. Manual Adjust 1

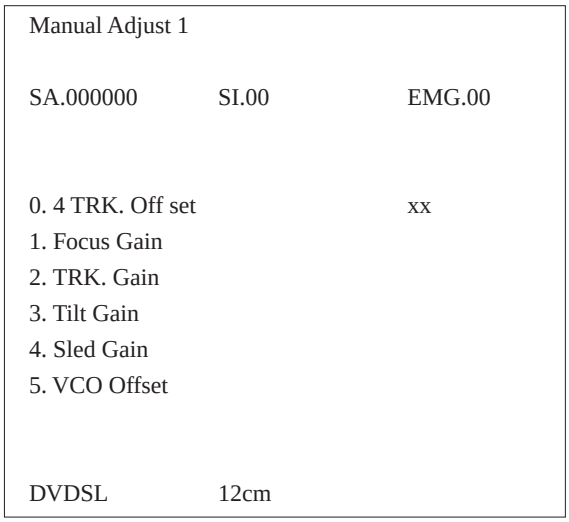


Figure 14

On this screen, manual adjustment can be made where jitter measurement is not executed.

0. TRK Offset : Adjust tracking offset.
1. Focus Gain : Adjust focus gain.
2. TRK Gain : Adjust tracking gain.
3. Tilt Gain : The tilt gain is fixed, and no adjustment is made.
4. Sled Gain : Do not adjust this.
5. VCO Offset: Set VCO control voltage.

6-4-7. Manual Adjust 2

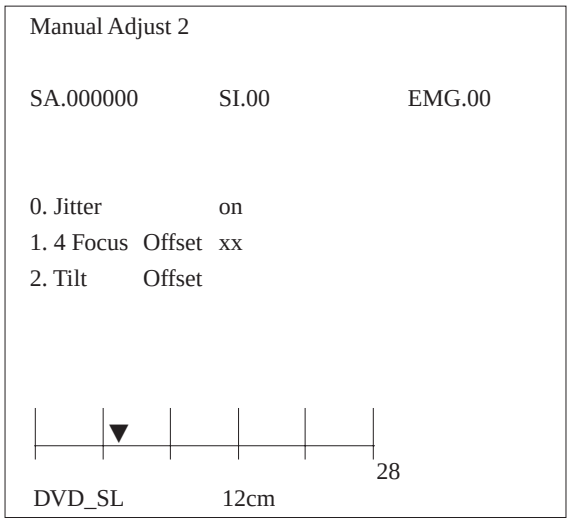


Figure 15

On this screen, manual adjustment can be made where jitter measurement is executed.

0. Jitter : Turn on/off jitter measurement. Jitter will not be measured unless the drive runs at CLVS or CLVA.
1. Focus Offset : Adjust focus offset.
2. Tilt offset : Adjust tilt offset.

6-4-8. Auto Adjust

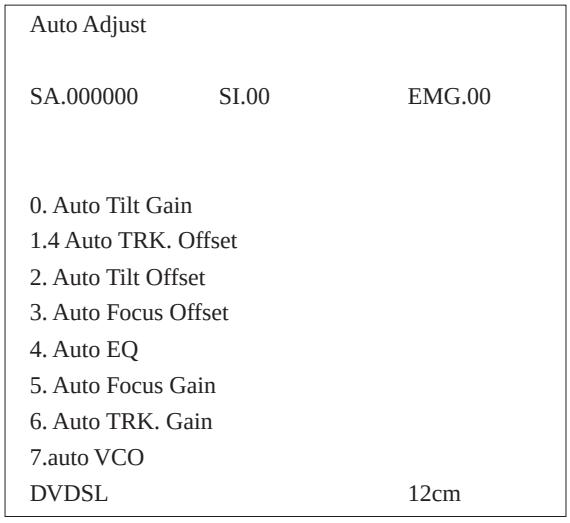


Figure 16

On this screen, each item can be automatically adjusted individually.
Note, however, that there are some restrictions.

0. Auto Tilt Gain : Adjust tilt gain. Adjusted result is not reflected on the ROM. Executed this at least with LD and Tilt turned on. (Not used at present)

1. Auto TRK Offset : Adjust tracking offset automatically. Adjusted result is reflected on the ROM. Turn off tracking with the Focus turned on. Do not execute this at outside track because pickup moves outside. It is recommended to turn on CLVS.

2. Auto Tilt Offset : Adjust tilt offset automatically. Adjusted result is reflected on the ROM. Execute this with CLVA turned on. If NG, retry this after focus offset and tangential skew are adjusted.

3. Auto Focus Offset : Adjust focus offset automatically. Adjusted result is reflected on the ROM. Execute this with CLVA turned on. If NG, retry this after tilt offset and tangential skew are adjusted.

4. Auto EQ : Adjust RF equalizer properly. Adjusted result is not reflected on the ROM. Execute this with CLVA turned on.

5. Auto Focus Gain : Adjust focus gain automatically. Adjusted result is reflected on the ROM. Execute this with CLVA turned on if possible. If NG, the system will be defective, and repair it.

6. Auto TRK gain : Adjust tracking gain automatically. Adjusted result is reflected on the ROM. Execute this with CLVA turned on if possible. If NG, the system will be defective, and repair it.

7. Auto VCO : Adjust VCO voltage. Adjusted result is reflected on the ROM. Execute this with all items turned OFF.

6-4-9. Check

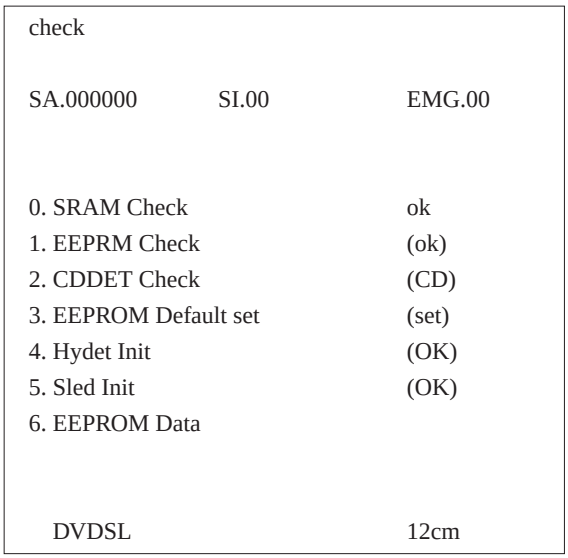


Figure 17

On this screen, various checking can be made. Note, however, that some items such as EEPROM Default set are not recoverable.

0. SRAM check : Check communication between H8 and SRAM (CXK58257).

1. EEPROM check : Check communication between H8 and EEPROM (AK6420).

2. CDDET check : Check CD detection sensor. Result is shown on the right side.

3. EEPROM Default set : Use this to set EEPROM set values to default values. Before executing this, it is recommended to record current values.

4. Hydet init : Initialize for direct searching.

5. Sled init : Cancel the sled stop position offset.

6. EEPROM data : Display EEPROM set values list. Display is made with HEX numbers “00”~”FF”.

If the check on this screen is NG EMG turns to the number that is not “00..”

EEPROM data screen display (at default setting)

EEPROM data

		CD	DVD		
Set No.	00		SL	L0	L1
Focus Offset		80	80	80	80
Focus Gain		30	18	30	30
TRK Offset		80	80	80	80
TRK Gain		30	30	30	30
Tilt Offset		80	80	80	80
Pullin Level		9e	9f	ab	ab
Sled Gain		10	18	18	18
EQ Init			3a	35	30
VCO Offset			76	76	76

Figure 18

This screen displays various set values including adjusted results stored in the EEPROM.

Set No. : Nothing is displayed (00 is displayed)
Focus Offset : 00~FF 80 center (DVD_SL)
Focus Gain : 00~7F 20 center (DVD_SL)
TRK. Offset : 00~FF 80 center (DVD_SL)
TRK. Gain : 00~7F 30 center (DVD_SL)
Tilt Offset : 00~FF 80 center (DVD_SL)
Pullin Level : 80~B0 approx. (DVD_SL)
EQ Init : Fixed value
VCO Offset : 70~80 approx. (DVD_SL)

6-5. Emergency History

With the initial menu displayed, press [3] key on the standard commander, and the information on emergency history of Drvcon and Syscon will be displayed. This information is given over two pages, which can be changed over with [1] and [2] keys. To return to the initial menu, press [0] key.

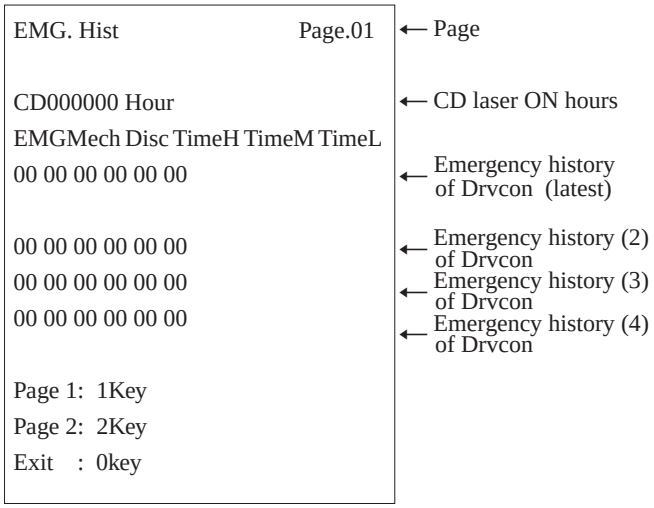

EMG. Hist Page.01
← Page
CD000000 Hour
← CD laser ON hours
EMGMech Disc TimeH TimeM TimeL
00 00 00 00 00 00
← Emergency history of Drvcon (latest)
00 00 00 00 00 00
← Emergency history (2) of Drvcon
00 00 00 00 00 00
← Emergency history (3) of Drvcon
00 00 00 00 00 00
← Emergency history (4) of Drvcon
Page 1: 1Key
Page 2: 2Key
Exit : 0key

Figure 19

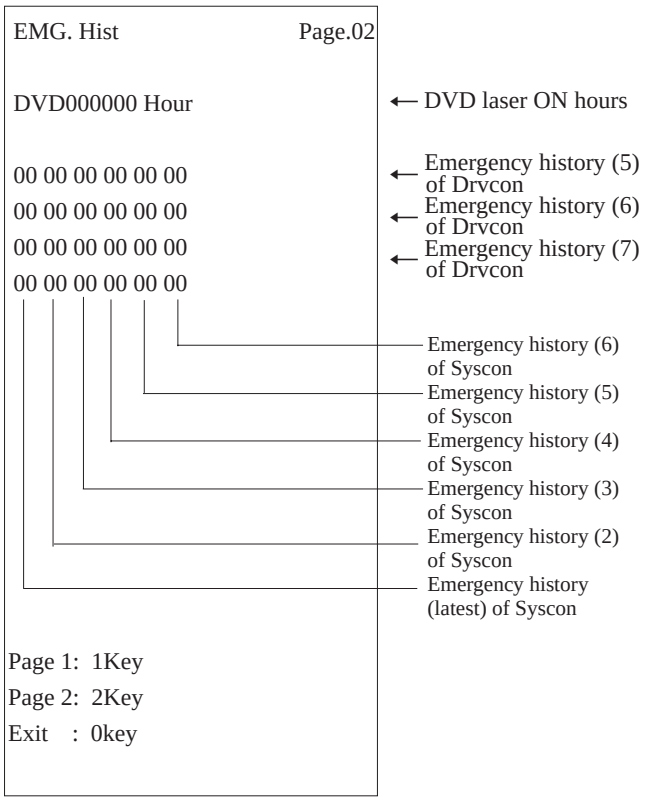

EMG. Hist Page.02
DVD000000 Hour
← DVD laser ON hours
00 00 00 00 00 00
← Emergency history (5) of Drvcon
00 00 00 00 00 00
← Emergency history (6) of Drvcon
00 00 00 00 00 00
← Emergency history (7) of Drvcon
00 00 00 00 00 00
Emergency history (6) of Syscon
Emergency history (5) of Syscon
Emergency history (4) of Syscon
Emergency history (3) of Syscon
Emergency history (2) of Syscon
Emergency history (latest) of Syscon
Page 1: 1Key
Page 2: 2Key
Exit : 0key

Figure 20

The following hidden commands are available. Data clear can be confirmed from the fact that the screen display changes.

◎ Clearing laser ON hours
Press [DISPLAY] and [CLEAR] keys on the standard commander in this order.

◎ Clearing emergency history
Press [TITLE] and [CLEAR] keys on the standard commander in this order.
After repair is finished, always clear emergency history data.

◎ Clearing Syscon preset
Press [DVD MENU] and [CLEAR] keys on the standard commander in this order.

For EMG code, Mech mode, and Disc information of history display, see “Drvcon emergency code list”, “Drvcon Mech mode list”, and “Drvcon disc status list”.

6-6. Other Checks

With the initial menu displayed, press [4] key on the standard commander, and the information such as destination and ROM revision will be displayed. At this time, LED and display tube lighting check is also executed.

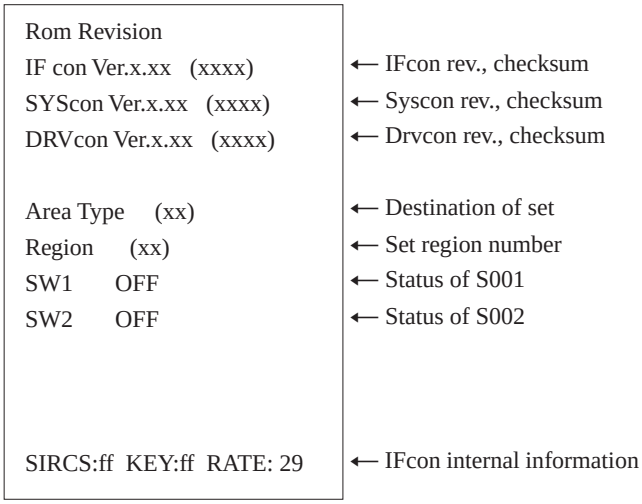


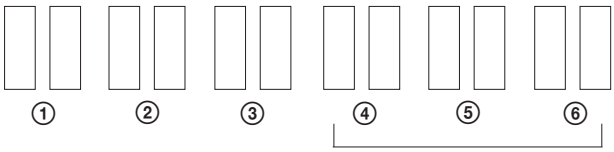
Figure 21

After mode is selected, checksum calculation and information reading are executed, thus requiring time before display.
Also, during this display, LEDs and display tube are all turned on.

The status of keys on standard commander and operation panel is displayed in real time. However, if [POWER] key is pressed, the power is turned off after display. Also, this mode is terminated if pressing [RETURN] key.
The door is opened/closed by pressing [PANEL] key on operation panel.
When [RETURN] key is pressed, LED and display tube are turned off and the initial screen is resumed.

Note: A number of two decimal places of Rom Revision is a design management code and therefore ignore it.

How to see Emergency History



DVD : Selector address
CD : minute & second frame

① EMG CODE
② MECH MODE
③ DISC
④ TIME (MSB)
⑤ TIME
⑥ TIME (LSB)

① EMG CODE

a) Drvcon emergency code list

Initial
- 00: No Emergency
- 01: RAM check NG (IC138)
- 02: ROM check NG (ICS140)
- 03: EEPROM RW NG (IC139)
- 04: EEPROM BUSY Time Out (IC139)
- 05: CXD2545 (IC717) check NG
- 06: CXD8599 (IC710) check NG
- 07: CXD8663 (IC181) check NG
- 08: HYDET NG
- 09: SDCNTL NG
- 0A: VCO NG
- 0B: Focus Gain Adj NG
- 0C: Trk Gain Adj NG
- 0D: Jitter NG

Door & Tray system
- 10: Door Time Out
- 11: Tray Time Out

Spindle system
- 20: Spindle Lock Time Out
- 21: Spindle Out of Control

Sled system
- 30: Home Position Time Out
- 31: Sled FG NG
- 32: Sled Drv NG

Tilt system start up/down
- 50: Focus Search Time Out

Trace system
- 60: CL VLOCK NG
- 61: PLL NG
- 62: Address Continuity NG
- 63: PLL Lock Time Out
- 64: CLV Lock Time Out
- 65: Layer slip NG

Seek system
- 70: Address Read NG
- 71: Seek NG
- 72: Focus Jump NG
- 73: TOC Read Time Out
- 74: FOK NG
- 75: Req Address NG
- 76: Req Time NG
- 77: Req Track No NG

Communication system
- 80: Communication NG

(b) Syscon emergency codes list

Stop system
- 10: Stop request from drive controller was received
- 11: At the mode change command, the mode could not be changed within specified time and the drive stopped.
- 12: Retry due to supply error failed and the drive stopped.
- 13: Disc directory configuration and information file are illegal and the drive stopped.
- 14: The drive stopped as a DVD-R disc was used.
- 15: Coded data could not be decoded and the drive stopped.
- 16: At slow R, the destination of reverse search is illegal and the drive stopped.
- 17: Information file reading failed and the drive stopped.

Retry system
- 20: Disc data reading failed and retry was made.
- 21: Video decoder operation failed and retry was made.
- 22: Retry was made due to DMX error.
- 23: At slow R, retry was made due to data supply time out.
- 24: At slow R, retry was made due to wrong Navi Pack address.
- 25: At slow R, video decoder operation failed and retry was made.
- 26: At slow R, retry was made due to failure of display picture preparation.
- 27: At FF/FR, retry was made due to data supply time out.
- 28: At FF/FR, video decoder operation failed and retry was made.

Power system
- 80: The power turned off because of power off request from drive controller
- 81: The mode change to Stop mode failed and the power turned off.

② MECH MODE (Drvcon Mech mode list)
- 00: Power ON Ready (immediately after power on)
- 10: Eject
- 20: Stop
- 30: Trace (data supply mode)
- 40: Pause
- 50: Scan
- 60: Mecha Initialize
- 70: Load
- 80: Unload
- 90: Spin Up (disc startup operation)
- A0: Spin Down (disc stop operation)
- B0: Seek (search mode)
- C0: Error Recovery
- D0: Service

③ DISC (Drvcon status list)

bit	Value:0	Value:1
0: DVD/CD	DVD	CD
1: 12cm/8cm	12cm	8cm
2: Layer	Single	Dual
3: Reflectivity	High	Low
4: Judge/No judge	Judge	No judge
5: Disc/No disc	Disc	No disc
6: CDROM	Not	True
7: Track Density (DVD)	0.74 mm	0.80 mm

Note: If judge/no judge is not “judge”, correct data have not been written.

SECTION 7
ELECTRICAL ADJUSTMENT

In making adjustment, refer to 7-5. Adjustment Related Parts Arrangement.

This section describes procedures and instructions necessary for adjusting electrical circuits in this set.

Instruments required:

1) Color monitor TV
2) Oscilloscope 1 or 2 phenomena, band width over 100 MHz, with delay mode
3) Frequency counter (over 8 digits)
4) Digital voltmeter
5) Standard commander
6) DVD reference disc
   HLX-502 (J-6090-068-A) (dual layer)
   HLX-503 (J-6090-069-A) (single layer)

7-1. Power Supply Check

1. PS-408/413 Board

Mode	E-E
Instrument	Digital voltmeter
EVER +5V check	
Test point	CN954 ① pin
Specification	5 ±0.5V
POWER FAIL check	
Test point	CN954 ② pin
Specification	4V ~ 5V (POWER ON)

Checking method:

1) Confirm that each voltage satisfies the specification.

2. MB-80 Board

Mode	E-E
Instrument	Digital voltmeter
–7V check	
Test point	W001 ⑨ pin
Specification	–7 ±0.5V
+12V check	
Test point	W001 ⑦ pin
Specification	+12 ±0.5V
+5.2V check	
Test point	W001 ①, ② pins
Specification	+5.2 ±0.2V

Checking method:

1) Confirm that each voltage satisfies the specification.

7-2. +5.2 V Adjustment (SR-740/745 board)

Mode	E-E
Measuring Insrument	Digital voltmerter
Measurement Point	Pin ⑫ of CN201
Adjusting Element	VR 201
Specified Value	+5.2 ± 0.2 V

7-3. Adjustment of System Control

1. 27MHz Free Run (MB-80 board)

<Purpose>

27MHz is the reference clock for the MPEG system, and if it is not adjusted correctly, checking of 22 MHz and 33 MHz lock in the following steps will result in NG.

Mode	E-E
Test point	TP018 (27MHz FREE RUN)
Instrument	Oscilloscope, Frequency counter
Adjusting element	RV001
Specification	27000000 ±100Hz

Adjusting method:

1) Connect TP025 (XULK) to the GND.
2) Confirm that the waveform at TP018 is normal.
3) Adjust RV001 to attain 27000000 ± 100 Hz.
4) After adjustment, disconnect TP025 from GND.

Figure 7-1

2. 22MHz Adjustment (MB-80 board)

<Purpose>

22MHz is the reference clock to generate 33 MHz clock, and if it is not adjusted correctly, checking of 33 MHz will result in NG.

Mode	E-E
Test point	TP022 (512fs)
Instrument	Oscilloscope, Frequency counter
Adjusting element	CT001
Specification	22579200 ±100Hz

Adjusting method:

1) In the “0” Syscon Diagnosis of the test mode initial menu, select the CD mode.
2) Confirm that the waveform at TP022 is normal.
3) Adjust CT001 to attain 22579200 ±100Hz.

Figure 7-2

3. 33 MHz Check (MB-80 board)

<Purpose>

33 MHz is the reference clock for audio system to play CD (including video CD), and if it is not adjusted correctly, no sound will be generated or sounds will be distorted.

Mode	E-E
Test point	TP019 (33 MHz)
Instrument	Oscilloscope, Frequency counter
Specification	33868800 ±150Hz

Checking method:

1) In the “0” Syscon Diagnosis of the test mode initial menu, select the CD mode.
2) Confirm that the waveform at TP019 is normal.
3) Confirm that the frequency is 33868800 ±150Hz.

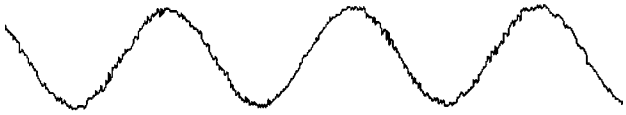


Figure 7-3

4. 33 MHz Lock Check (MB-80 board)

<Purpose>

This checks whether 33 MHz is synchronized with reference clock 27MHz for MPEG system. If it is not locked, the sounds and pictures are not synchronous during MPEG playing or playing is suspended.

Mode	E-E
Test point	TP021 (PH-COMP)
Instrument	Oscilloscope, Frequency counter
Specification	21.6 ±0.01kHz

Checking method:

1) In the “0” Syscon Diagnosis of the test mode initial menu, select the CD mode.
2) Confirm that a rectangular wave at TP021 is locked.
3) Confirm that the frequency is 21.6 ±0.01kHz.

Figure 7-4

5. 24 MHz Adjustment (MB-80 board)

<Purpose>

24 MHz is the reference clock to generate 36 MHz clock, and if it is not adjusted correctly, checking of 36 MHz will result in NG.

Mode	E-E
Test point	TP022 (512fs)
Instrument	Oscilloscope, Frequency counter
Adjusting element	CT002
Specification	24576000 ±100Hz

Adjusting method:

1) In the "0" Syscon Diagnosis of the test mode initial menu, select the DVD mode.
2) Confirm that the waveform at TP022 is normal.
3) Adjust CT002 to attain 24576000 ±100Hz.

Figure 7-5

6. 36 MHz Check (MB-80 board)

<Purpose>

36 MHz is the reference clock for audio system to play DVD, and if it is not adjusted correctly, no sound will be generated or sounds will be distorted.

Mode	E-E
Test point	TP020 (36 MHz)
Instrument	Oscilloscope, Frequency counter
Specification	36864000 ±150 Hz

Checking method:

1) In the "0" Syscon Diagnosis of the test mode initial menu, select the DVD mode.
2) Confirm that the waveform at TP020 is normal.
3) Confirm that the frequency is 36864000 ±150 Hz.

Figure 7-6

7. 36 MHz Lock Check (MB-80 board)

<Purpose>

This checks whether 36 MHz is synchronized with reference clock 27 MHz for MPEG system. If it is not locked, the sounds and pictures are not synchronous during MPEG playing or playing is suspended.

Mode	E-E
Test point	TP021 (PH-COMP)
Instrument	Oscilloscope, Frequency counter
Specification	24.0 ±0.01 kHz

Checking method:

1) In the "0" Syscon Diagnosis of the test mode initial menu, select the DVD mode.
2) Confirm that a rectangular wave at TP021 is locked.
3) Confirm that the frequency is 24.0 ±0.01 kHz.

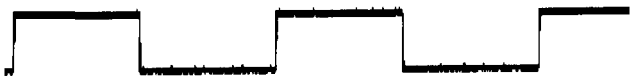


Figure 7-7

8. 16 MHz Check (MB-80 board)

<Purpose>

16 MHz is the reference clock for audio system to play CD (including video CD), and if it is not adjusted correctly, no sound will be generated or sounds will be distorted.

Mode	E-E
Test point	IC770 20 pin
Instrument	Oscilloscope, Frequency counter
Specification	16934400 ±75 Hz.

Checking method:

1) Confirm that the waveform at IC770 ⑳ pin is normal.
2) Confirm that the frequency is 16934400 ±75 Hz.

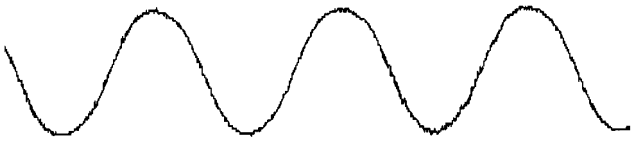


Figure 7-8

7-4. Adjustment of Video System

1. Video Level Adjustment (MB-80 board)

<Purpose>

This adjustment is made to satisfy the NTSC Standard, and if not adjusted correctly, the brightness will be too large or small.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑪ pin (terminating 75)
Instrument	Oscilloscope
Adjusting element	RV479
Specification	1 ±0.02 Vp-p

Adjusting method:

1) In the test mode initial menu “0” Syscon Diagnosis, set so that CXD1914 color bars are generated.
2) Adjust the RV479 to attain 1 ±0.02 Vp-p.

Figure 7-9

2. S-terminal Output Check (MB-80 board)

<Purpose>

Check S-terminal video output. If it is incorrect, pictures will not be displayed correctly in spite of connection to the TV with an S-terminal cable.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑦ pin (terminating 75)
Instrument	Oscilloscope
Specification	1 ±0.05 Vp-p

Checking method:

1) In the test mode initial menu “0” Syscon Diagnosis, set so that CXD1914 color bars are generated.
2) Confirm that the S-Y level is 1 ± 0.05 Vp-p.

Figure 7-10

3. Checking Composite Video Output B-Y(MB-80 board)

<Purpose>

This checks composite video output B-Y. If it is incorrect, correct colors will not be displayed when connected to, for instance, projector.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ① pin (terminating 75)
Instrument	Oscilloscope
Specification	700 ±30 mVp-p

Checking method:

1) Confirm that the B-Y level is 700 ±30 mVp-p.

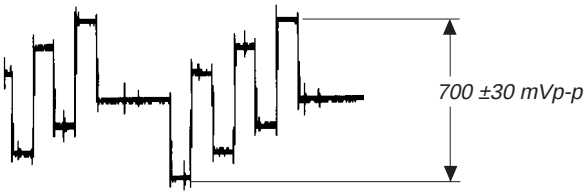


Figure 7-11

4. Checking Composite Video Output R-Y(MB-80 board)

<Purpose>

This checks composite video output R-Y. If it is incorrect, correct colors will not be displayed when connected to, for instance, projector.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ③ pin (terminating 75)
Instrument	Oscilloscope
Specification	700 ±30 mVp-p

Checking method:

1) Confirm that the R-Y level is 700 ± 30 mVp-p.

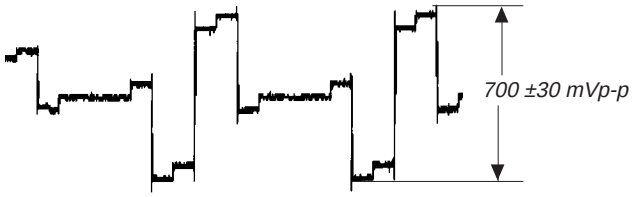


Figure 7-12

5. Checking Composite Video Output Y (MB-80 board)

<Purpose>

This checks composite video output Y. If it is incorrect, correct brightness will not be attained when connected to, for instance, projector.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑤ pin (terminating 75)
Instrument	Oscilloscope
Specification	1 ±0.05 Vp-p

Checking method:

1) Confirm that the Y level is 1 ±0.05 Vp-p.

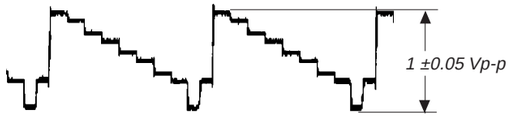


Figure 7-13

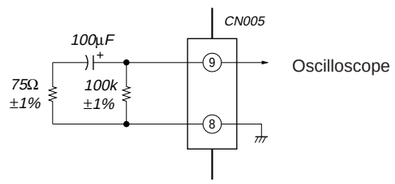
6. Checking S Video Output S-C (MB-80 board)

<Purpose>

This checks whether the S-C satisfies the NTSC Standard. If it is not correct, the colors will be too dark or light.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑨ pin
Instrument	Oscilloscope
Specification	286 ±20 mVp-p

Connection:



Checking method:

1) Confirm that the S-C burst is 286 ±20 mVp-p.

Figure 7-14

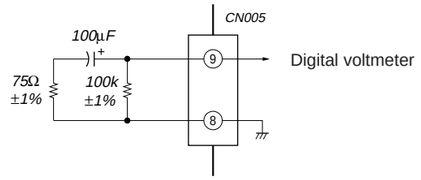
7. Checking S Video Output DC Level (MB-80 board)

<Purpose>

This checks signals for S1 and S2 compatible TV. If they are not correct, the TV will not switch automatically to letter box, etc.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑨ pin
Instrument	Digital voltmeter
Specification	S-terminal 0V: 0V S-terminal 5V: $5.0^{+0}_{-1.5}$ V

Connection:

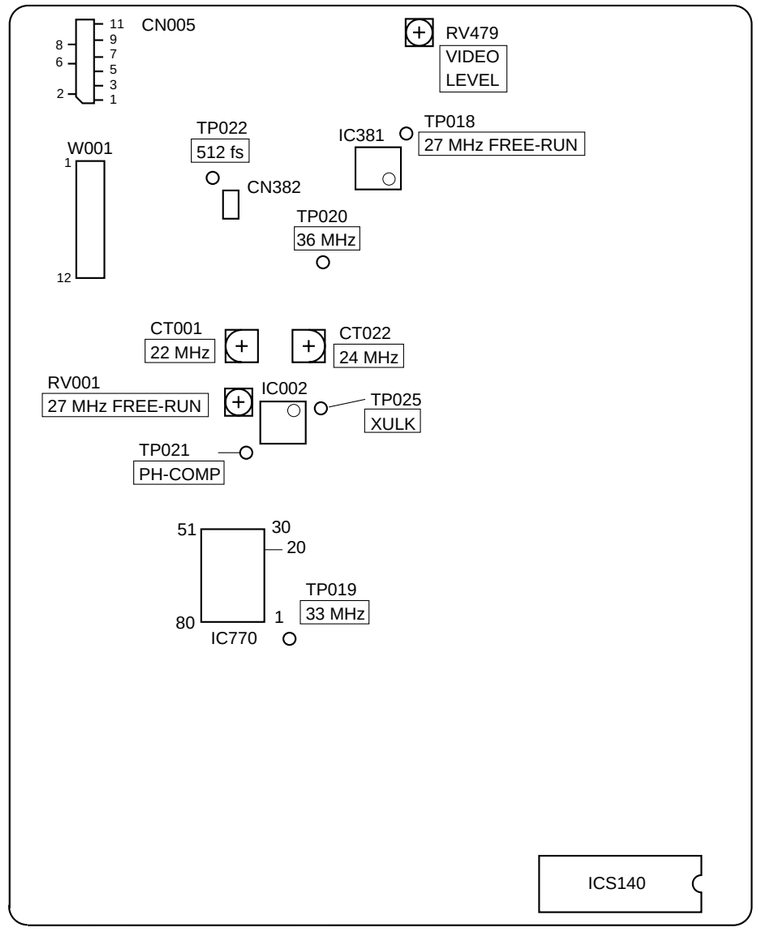


Checking method:

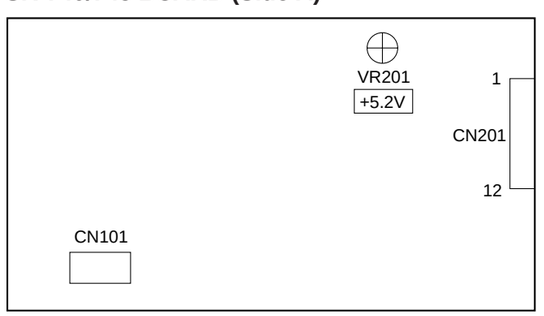
1) In the test mode initial menu “0” Syscon Diagnosis, select S-terminal 0V.
   Confirm that the voltage at CN005 ⑨ pin is 0V.
2) Press any key to select S-terminal 5V.
   Confirm that the voltage at CN005 ⑨ pin is $5.0^{+0}_{-1.5}$ V.

7-5. Adjustment Related Parts Arrangement

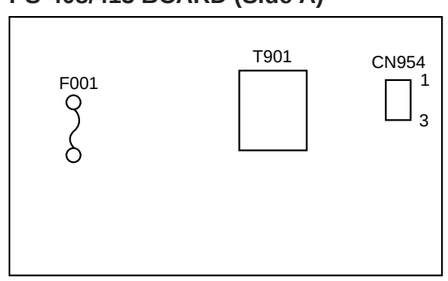
MB-80 BOARD (Side A)



SR-740/745 BOARD (Side A)



PS-408/413 BOARD (Side A)



5. Checking Composite Video Output Y (MB-80 board)

<Purpose>

This checks composite video output Y. If it is incorrect, correct brightness will not be attained when connected to, for instance, projector.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑤ pin (terminating 75)
Instrument	Oscilloscope
Specification	1 ±0.05 Vp-p

Checking method:

1) Confirm that the Y level is 1 ±0.05 Vp-p.

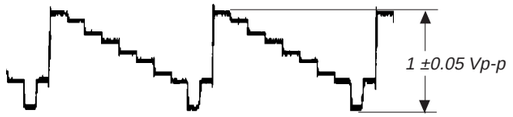


Figure 7-13

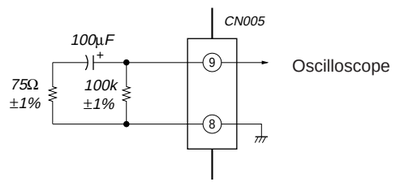
6. Checking S Video Output S-C (MB-80 board)

<Purpose>

This checks whether the S-C satisfies the NTSC Standard. If it is not correct, the colors will be too dark or light.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑨ pin
Instrument	Oscilloscope
Specification	286 ±20 mVp-p

Connection:



Checking method:

1) Confirm that the S-C burst is 286 ±20 mVp-p.

Figure 7-14

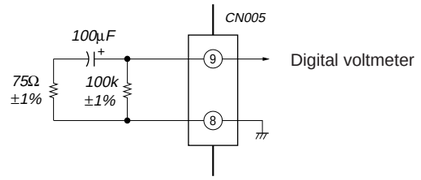
7. Checking S Video Output DC Level (MB-80 board)

<Purpose>

This checks signals for S1 and S2 compatible TV. If they are not correct, the TV will not switch automatically to letter box, etc.

Mode	CXD1914 (ENC) check in test mode menu “0” Syscon Diagnosis
Signal	Color bars
Test point	CN005 ⑨ pin
Instrument	Digital voltmeter
Specification	S-terminal 0V: 0V S-terminal 5V: $5.0^{+0}_{-1.5}$ V

Connection:

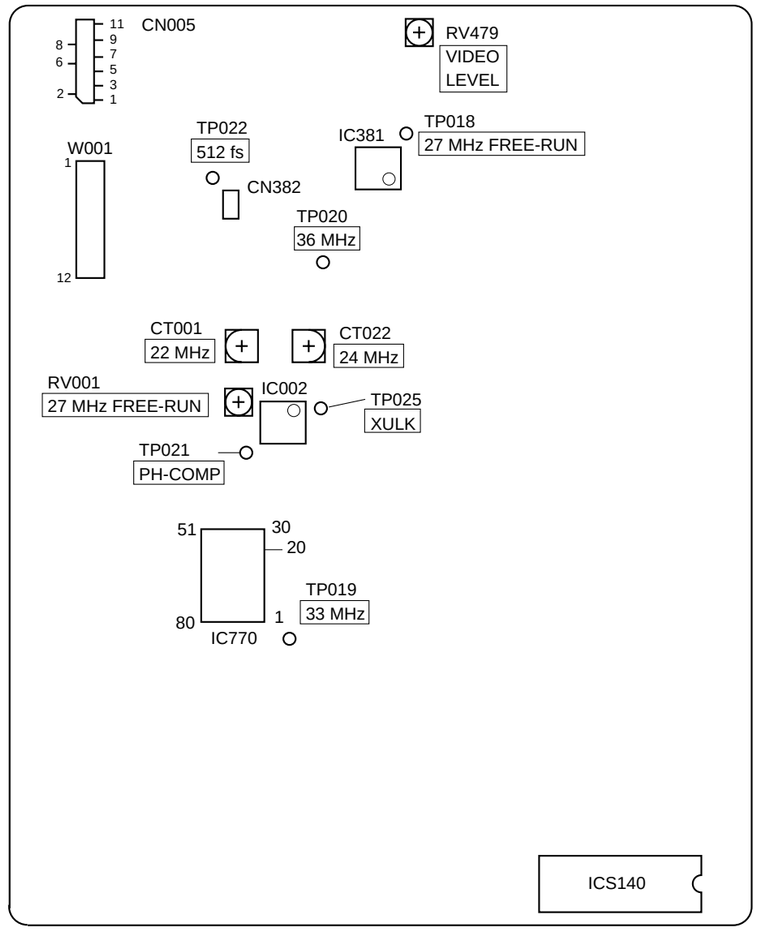


Checking method:

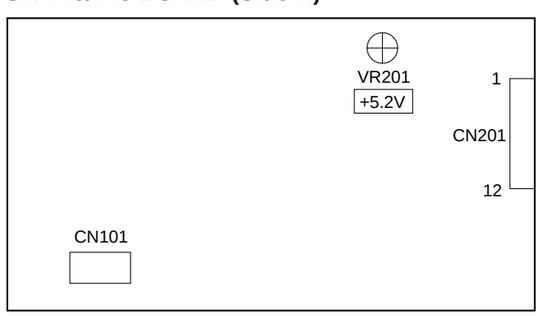
1) In the test mode initial menu “0” Syscon Diagnosis, select S-terminal 0V.
   Confirm that the voltage at CN005 ⑨ pin is 0V.
2) Press any key to select S-terminal 5V.
   Confirm that the voltage at CN005 ⑨ pin is $5.0^{+0}_{-1.5}$ V.

7-5. Adjustment Related Parts Arrangement

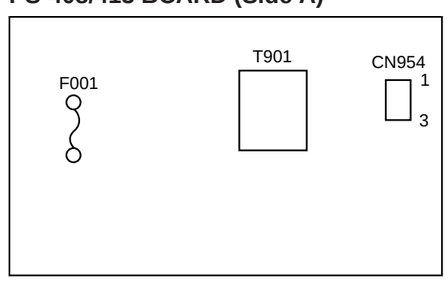
MB-80 BOARD (Side A)



SR-740/745 BOARD (Side A)



PS-408/413 BOARD (Side A)



SECTION 8
REPAIR PARTS LIST

8-1. EXPLODED VIEWS

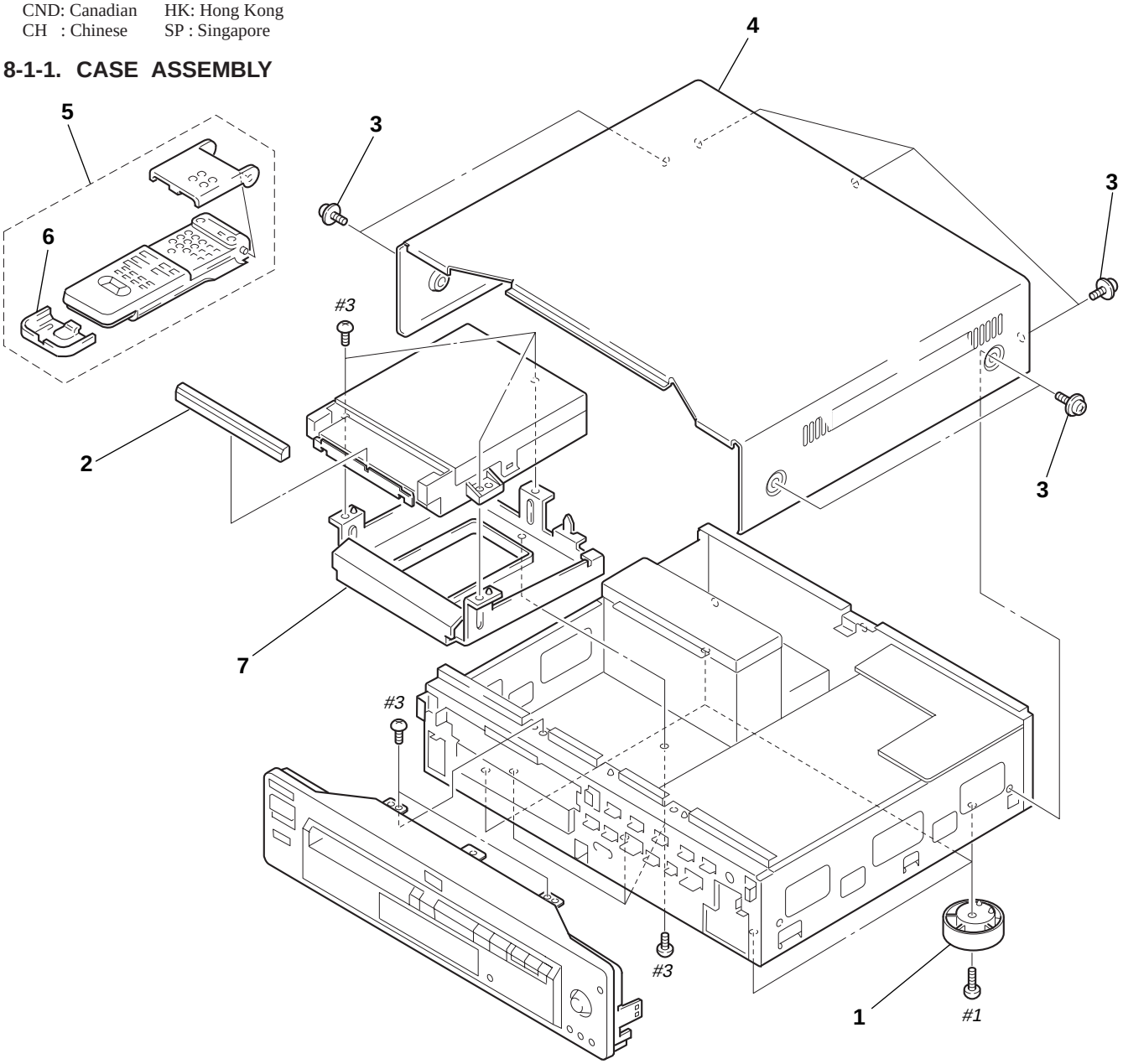
NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:

  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Abbreviation
  CND: Canadian HK: Hong Kong
  CH : Chinese SP : Singapore
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

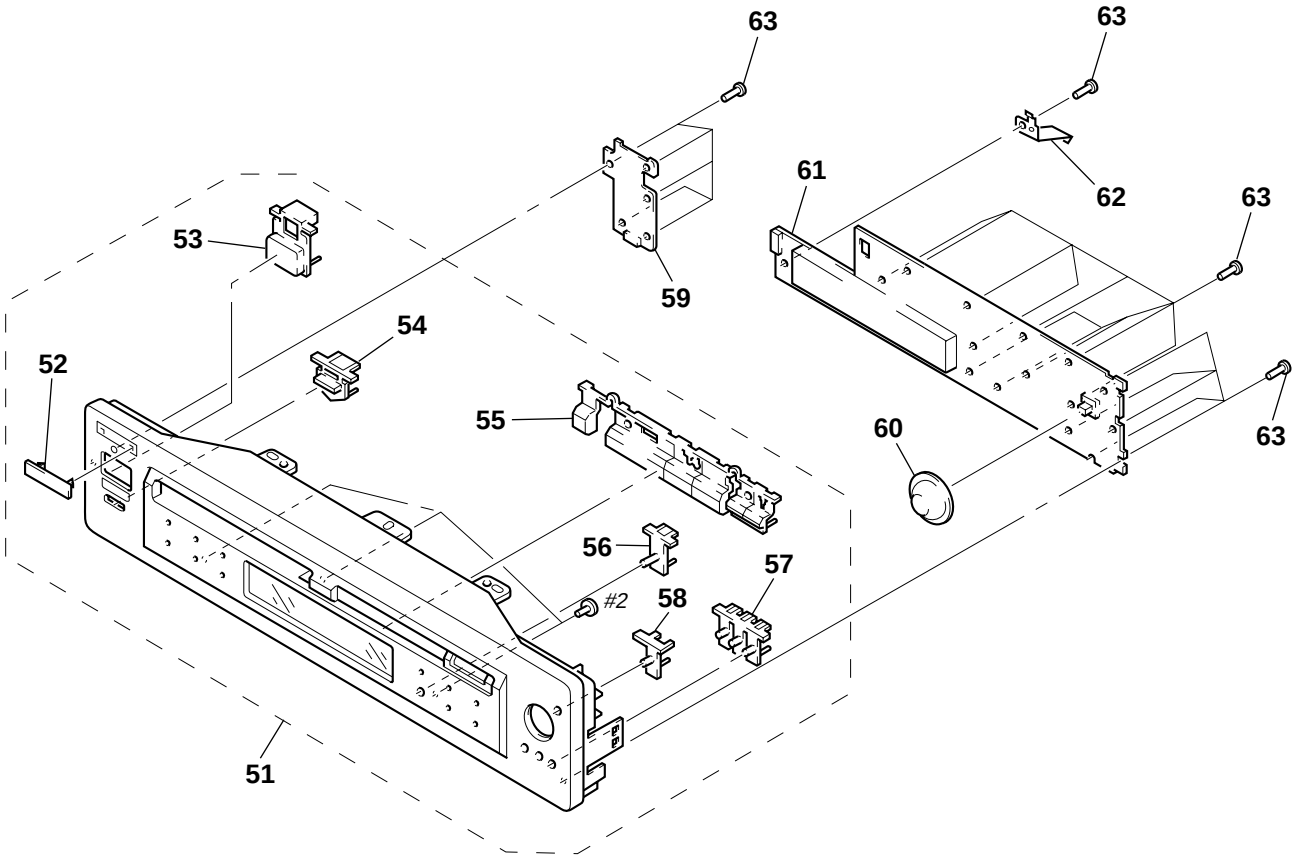
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le neméro spécifié.

8-1-1. CASE ASSEMBLY



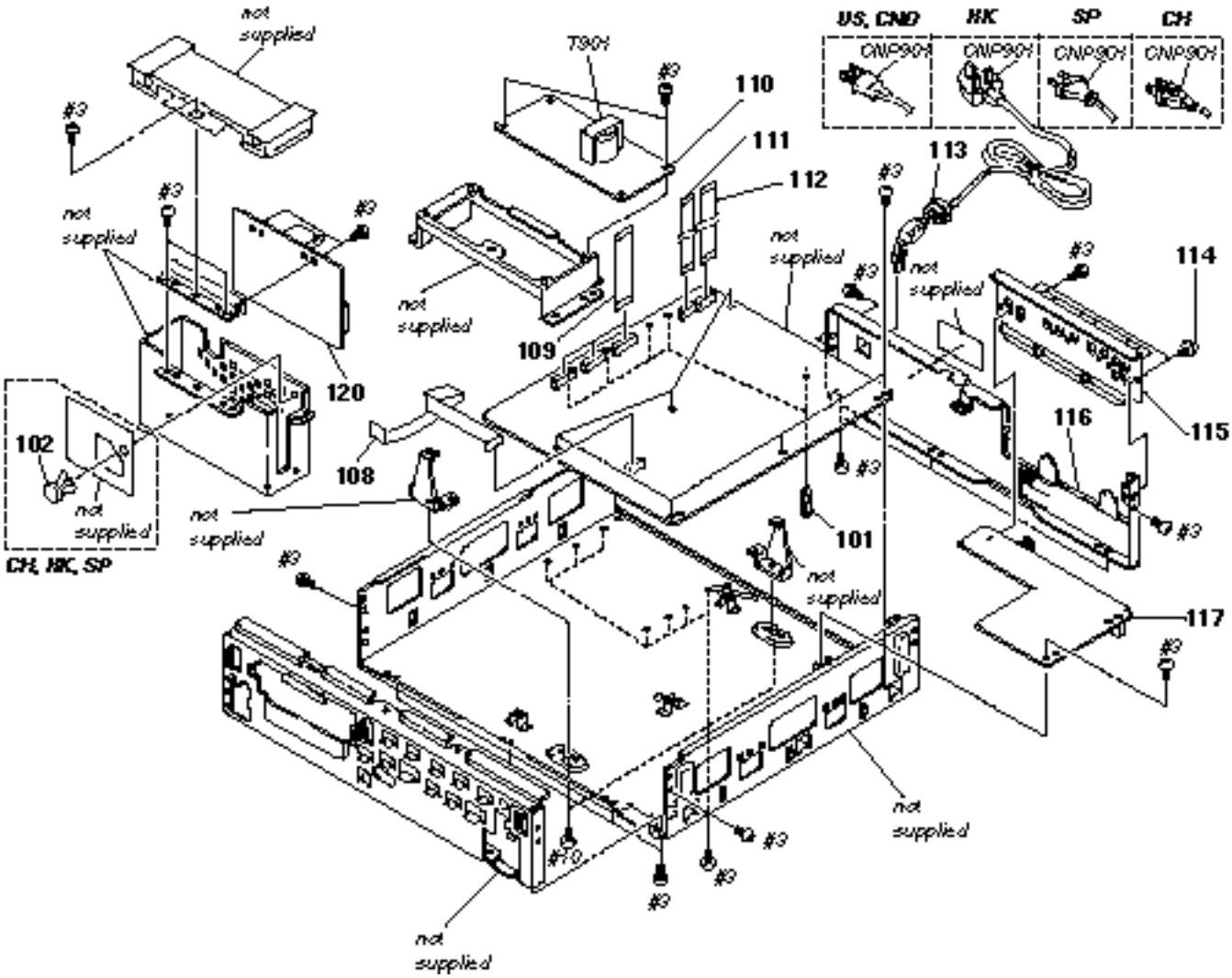
Ref. No.	Part No.	Description	Remark
1	X-3602-115-1	FOOT ASSY (CH, HK, SP)	
1	X-3947-227-1	FOOT ASSY (US, CND)	
2	3-979-416-01	COVER, TRAY (US, CND)	
2	3-979-416-11	COVER, TRAY (CH, HK)	
2	3-979-416-21	COVER, TRAY (SP)	
3	3-710-901-41	SCREW, TAPPING (US, CND, SP)	
3	3-710-901-51	SCREW, TAPPING (CH, HK)	
* 4	3-974-981-01	CASE, TOP (SP)	
* 4	3-974-981-11	CASE, TOP (US, CND)	
* 4	3-974-981-21	CASE, TOP (CH, HK)	
5	1-475-086-31	COMMANDER, STANDARD (RMT-D100E) (CH, HK, SP)	
5	1-475-086-51	COMMANDER, STANDARD (RMT-D100U) (US, CND)	
6	9-939-686-01	LID, BATTERY CASE (for RMT-D100E/D100U)	
* 7	3-979-417-01	HOLDER, MD	

8-1-2. FRONT PANEL ASSEMBLY



Ref. No.	Part No.	Description	Remark
51	A-6062-026-A	PANEL BLOCK ASSY (1010UC) (US, CND)	
51	A-6062-028-A	PANEL BLOCK ASSY (1010SP) (SP)	
51	A-6062-029-A	PANEL BLOCK ASSY (1010CN) (CH, HK)	
52	4-963-404-21	EMBLEM (5-A), SONY (US, CND, SP)	
52	4-963-404-81	EMBLEM (5-A), SONY (CH, HK)	
53	3-979-425-01	BUTTON, POWER (POWER) (US, CND)	
53	3-979-425-11	BUTTON, POWER (POWER) (CH, HK)	
53	3-979-425-21	BUTTON, POWER (POWER) (SP)	
54	3-979-426-01	BUTTON, MENU (US, CND)	
54	3-979-426-11	BUTTON, MENU (CH, HK)	
54	3-979-426-21	BUTTON, MENU (SP)	
55	3-979-430-01	BUTTON, PLAY (⏏. ▷. ❚❚. ■. ⏮. ⏭)	(US, CND)
55	3-979-430-11	BUTTON, PLAY (⏏. ▷. ❚❚. ■. ⏮. ⏭)	(CH, HK)
55	3-979-430-21	BUTTON, PLAY (⏏. ▷. ❚❚. ■. ⏮. ⏭)	(SP)
56	3-979-431-01	BUTTON, DISPLAY (US, CND)	
56	3-979-431-21	BUTTON, DISPLAY (CH, HK, SP)	
57	3-979-429-01	BUTTON, TITLE (US, CND)	
57	3-979-429-11	BUTTON, TITLE (CH, HK)	
57	3-979-429-21	BUTTON, TITLE (SP)	
58	3-979-428-01	BUTTON, ENTER (US, CND)	
58	3-979-428-11	BUTTON, ENTER (CH, HK)	
58	3-979-428-21	BUTTON, ENTER (SP)	
* 59	A-6065-046-A	PW-117 BOARD, COMPLETE (CH, HK, SP)	
* 59	A-6065-058-A	PW-116 BOARD, COMPLETE (US, CND)	
60	3-979-427-01	BUTTON, CURSOR (US, CND)	
60	3-979-427-11	BUTTON, CURSOR (CH, HK)	
60	3-979-427-21	BUTTON, CURSOR (SP)	
* 61	A-6065-045-A	FP-619 BOARD, COMPLETE (CH, HK, SP)	
* 61	A-6065-057-A	FP-611 BOARD, COMPLETE (US, CND)	
62	3-979-555-01	SPRING, ELECTROSTATIC	
63	3-979-433-01	SCREW (+P 2.6), TAPPING	

8-1-3. CHASSIS ASSEMBLY

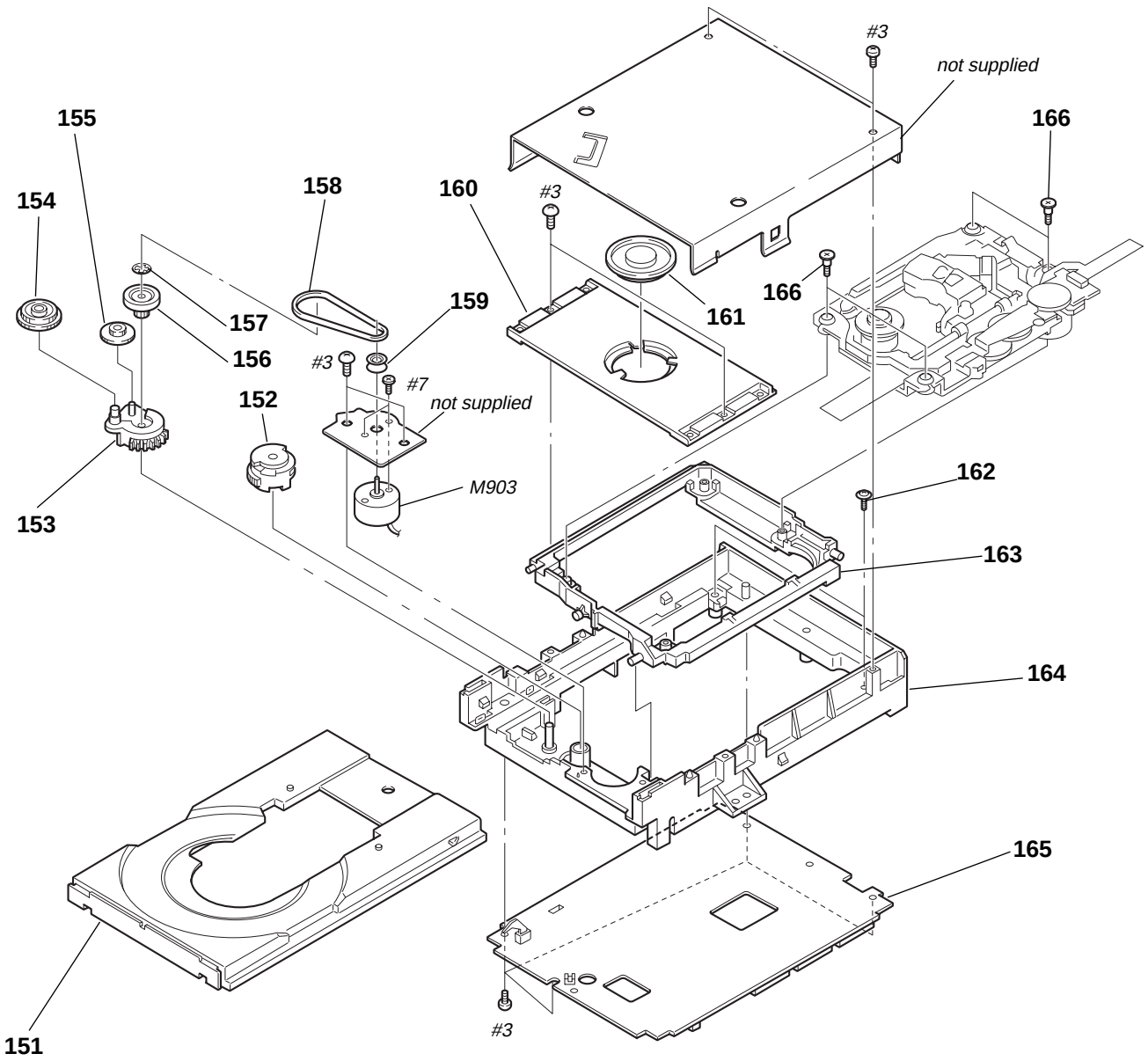


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
* 101	3-691-950-01	SPACER, P.C.BOARD	
102	3-531-576-01	RIVET (CH, HK, SP)	
108	1-782-867-11	CABLE, FLEXIBLE FLAT (FTT-4) 13P	
109	1-782-191-11	CABLE, FLEXIBLE FLAT (FTM-3)	
* 110	A-6065-044-A	PS-413 BOARD, COMPLETE (CH, HK, SP)	
* 110	A-6065-056-A	PS-408 BOARD, COMPLETE (US, CND)	
111	1-782-193-11	CABLE, FLEXIBLE FLAT (FAM-5)	
112	1-782-865-11	CABLE, FLEXIBLE FLAT (FAM-6) 20P	
113	3-703-571-12	BUSHING (2104), CORD	
114	3-710-901-41	SCREW, TAPPING	
* 115	3-979-418-01	PLATE, JACK (US, CND)	
* 115	3-979-418-21	PLATE, JACK (CH, HK, SP)	

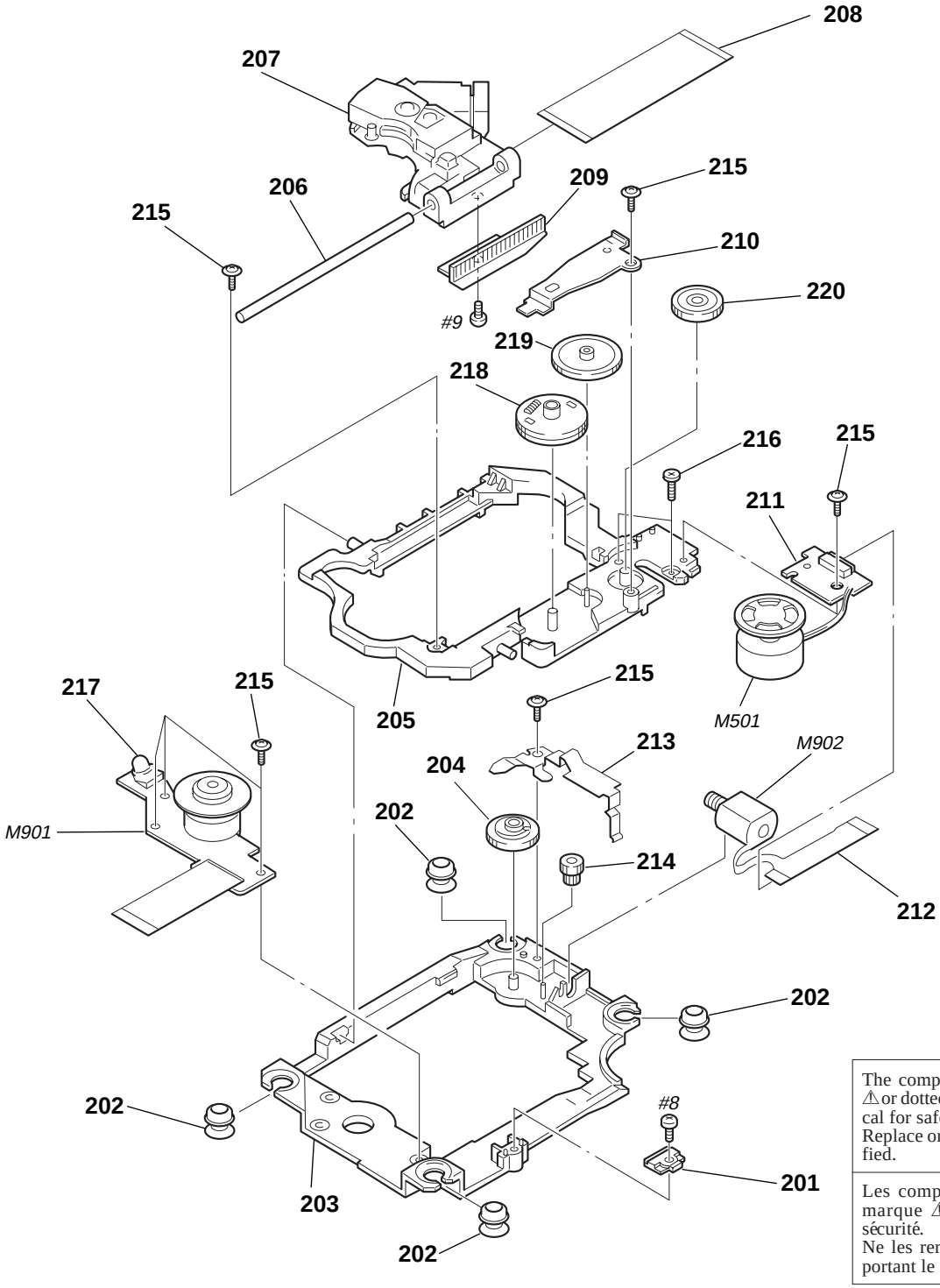
Ref. No.	Part No.	Description	Remark
* 116	3-974-969-31	PANEL, REAR (CH, HK, SP)	
* 116	3-974-969-21	PANEL, REAR (US, CND)	
* 117	A-6065-043-A	AU-203 BOARD, COMPLETE (CH, HK, SP)	
* 117	A-6065-055-A	AU-201 BOARD, COMPLETE (US, CND)	
⚠120	1-468-199-11	SR-740 BOARD, COMPLETE (US, CND)	
⚠120	1-468-200-11	SR-745 BOARD, COMPLETE (CH, HK, SP)	
⚠CNP901	1-690-609-81	CORD, POWER (US, CND)	
⚠CNP901	1-751-673-31	CORD, AC POWER (HK)	
⚠CNP901	1-782-510-11	CORD, POWER (CH)	
⚠CNP901	1-782-960-11	CORD, POWER (SP)	
⚠T901	1-429-784-11	TRANSFORMER, POWER (US, CND)	
⚠T901	1-431-593-11	TRANSFORMER, POWER (CH, HK, SP)	

8-1-4. DVD MECHANISM CHASSIS ASSEMBLY (1)



Ref. No.	Part No.	Description	Remark
151	3-975-090-01	TRAY	
152	3-975-073-01	GEAR, CAM	
153	3-975-087-01	GEAR, DRIVE	
154	3-975-086-01	GEAR, TRAY DRIVING	
155	3-975-072-01	GEAR, LOADING (MIDWAY)	
156	3-975-071-01	PULLEY, LOADING	
157	3-669-596-00	WASHER (2.3), STOPPER	
158	3-975-070-01	BELT	
159	3-975-085-01	PULLEY, MOTOR	
160	3-975-089-01	BRACKET, PRESS PULLEY	
* 161	3-975-074-01	PULLEY, PRESS	
162	3-975-077-01	SCREW, BU STOPPER	
* 163	3-975-088-01	HOLDER, BASE UNIT	
* 164	X-3947-008-4	BASE ASSY, LO	
* 165	A-6065-052-A	TT-40 BOARD, COMPLETE	
166	4-981-923-01	SCREW (M), STEP	
M903	1-698-942-21	MOTOR (LOADING)	

8-1-5. DVD MECHANISM CHASSIS ASSEMBLY (2)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
* 201	3-975-066-01	STOPPER, SKEW SHAFT	
* 202	3-975-061-01	INSULATOR	
* 203	3-975-056-01	BASE, SPINDLE	
204	3-975-058-01	CAM, SKEW	
* 205	3-975-063-01	BASE, SLIDE	
* 206	3-975-065-01	SHAFT, MAIN	
⚠ 207	8-820-005-02	OPTICAL PICK-UP KHS-180A/J1N	
208	1-665-390-11	OP-15 FLEXIBLE BOARD	
209	3-975-067-01	GEAR, RACK	
* 210	3-975-064-01	RETAINER, SLED GEAR	
* 211	A-6065-053-A	LM-56 BOARD, COMPLETE	
212	1-665-327-11	LT-31 FLEXIBLE BOARD	
* 213	3-975-059-01	RETAINER, SKEW GEAR	
214	3-975-057-01	GEAR, SKEW	
215	4-974-711-01	SCREW (2X5) (P TYIGHT), (+) PTTWH	
216	4-974-725-01	SCREW (M1.7X2.5), P	
217	8-749-013-33	IC KU160 (CD SENSOR)	
218	A-4683-008-A	GEAR ASSY, LIMITTER	
219	4-974-720-01	GEAR (S-B)	
220	4-974-726-01	GEAR (S-A)	
M501	X-3947-137-1	MOTOR ASSY, SLED	
M901	1-698-944-11	MOTOR, DC (SPINDLE)	
M902	X-3947-138-1	MOTOR ASSY, SKEW	

8-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-6065-055-A	AU-201 BOARD, COMPLETE (US,Canadian)			
*	A-6065-043-A	AU-203 BOARD, COMPLETE (Chinese,Hong Kong,Singapore)			
		**********			
		(Ref.No. 2,000 Series)			
		< CAPACITOR >			
C410	1-162-283-31	CERAMIC	120PF	10%	50V
C411	1-162-283-31	CERAMIC	120PF	10%	50V
C412	1-106-343-00	MYLAR	1000PF	5%	200V
C413	1-130-484-00	MYLAR	0.012uF	5%	50V
C414	1-130-495-00	MYLAR	0.1uF	5%	50V
C415	1-126-023-11	ELECT	100uF	20%	25V
C416	1-136-808-11	FILM	100PF	5%	100V
C417	1-128-489-11	ELECT	3300uF	20%	16V
C510	1-162-283-31	CERAMIC	120PF	10%	50V
C511	1-162-283-31	CERAMIC	120PF	10%	50V
C512	1-106-343-00	MYLAR	1000PF	5%	200V
C513	1-130-484-00	MYLAR	0.012uF	5%	50V
C514	1-130-495-00	MYLAR	0.1uF	5%	50V
C515	1-126-023-11	ELECT	100uF	20%	25V
C516	1-136-808-11	FILM	100PF	5%	100V
C517	1-128-489-11	ELECT	3300uF	20%	16V
C709	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (US,Canadian)
C710	1-126-023-11	ELECT	100uF	20%	25V
C711	1-137-399-11	FILM	0.1uF	5%	50V
C715	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C716	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C801	1-126-046-11	ELECT	3.3uF	20%	50V
C802	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C804	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C805	1-124-721-11	ELECT	10uF	20%	50V
C806	1-124-721-11	ELECT	10uF	20%	50V
C807	1-161-494-00	CERAMIC	0.022uF		25V
C808	1-161-494-00	CERAMIC	0.022uF		25V
C809	1-161-494-00	CERAMIC	0.022uF		25V
C810	1-161-494-00	CERAMIC	0.022uF		25V
C811	1-124-910-11	ELECT	47uF	20%	50V
C812	1-124-721-11	ELECT	10uF	20%	50V
C813	1-136-850-11	FILM	0.1uF	5%	63V
C814	1-136-850-11	FILM	0.1uF	5%	63V
C815	1-124-721-11	ELECT	10uF	20%	50V
C816	1-124-910-11	ELECT	47uF	20%	50V
C819	1-136-850-11	FILM	0.1uF	5%	63V
C820	1-136-850-11	FILM	0.1uF	5%	63V
C821	1-136-850-11	FILM	0.1uF	5%	63V
C822	1-124-721-11	ELECT	10uF	20%	50V
C823	1-124-721-11	ELECT	10uF	20%	50V
C824	1-124-689-11	ELECT	1000uF	20%	16V
C827	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C845	1-124-721-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
CN701	1-770-648-11	CONNECTOR, FFC/FPC 20P			
* CN801	1-770-642-11	CONNECTOR, FFC/FPC 11P			
* CN802	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN803	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< DIODE >			
D501	8-719-404-49	DIODE MA111			
D506	8-719-404-49	DIODE MA111			
D727	8-719-056-89	DIODE MA8120-TX (US,Canadian)			
D729	8-719-404-49	DIODE MA111			
		< FERRITE BEAD >			
FB701	1-414-553-11	INDUCTOR 0UH			
FB702	1-414-553-11	INDUCTOR 0UH			
FB703	1-414-553-11	INDUCTOR 0UH			
FB704	1-414-553-11	INDUCTOR 0UH			
FB705	1-414-553-11	INDUCTOR 0UH			
FB706	1-414-553-11	INDUCTOR 0UH			
FB707	1-414-553-11	INDUCTOR 0UH			
FB711	1-414-553-11	INDUCTOR 0UH			
FB712	1-414-553-11	INDUCTOR 0UH (US,Canadian)			
FB713	1-414-135-11	INDUCTOR CHIP 0UH			
FB714	1-414-135-11	INDUCTOR CHIP 0UH			
FB715	1-414-135-11	INDUCTOR CHIP 0UH			
* FB720	1-500-449-21	BEAD, FERRITE (SMD)			
		< FILTER >			
FL401	1-233-893-21	FILTER, CHIP EMI			
FL501	1-233-893-21	FILTER, CHIP EMI			

Ref. No.	Part No.	Description	Remark
FL503	1-233-893-21	FILTER, CHIP EMI	
FL701	1-416-488-11	COIL, TRAP (US,Canadian)	
FL702	1-416-488-11	COIL, TRAP (US,Canadian)	
		< IC >	
IC401	8-759-712-02	IC NJM2114D	
IC501	8-759-712-02	IC NJM2114D	
IC701	8-749-921-12	IC GP1F32T (DIGITAL OPTICAL OUT)	
IC702	8-759-242-70	IC TC7WU04F	
IC801	8-759-370-62	IC CXD8505BQ	
		< JACK >	
* J701	1-779-872-11	JACK, PIN 4P (LINE OUT AUDIO1,2)	
J702	1-764-188-21	JACK (SMALL TYPE)(DIA. 3.5)(S LINK)	(US,Canadian)
J703	1-779-744-11	JACK, PIN 1P (LINE OUT VIDEO)	
J704	1-764-591-11	CONNECTOR, ROUND TYPE (S VIDEO OUT)	
J706	1-779-382-11	JACK, PIN 1P (DIGITAL COAXIAL OUT)	
		< COIL >	
L401	1-408-947-00	INDUCTOR 2.2mH	
L501	1-408-947-00	INDUCTOR 2.2mH	
L503	1-410-119-11	INDUCTOR 1mH	
		< TRANSISTOR >	
Q203	8-729-424-18	TRANSISTOR UN2113	
Q204	8-729-424-18	TRANSISTOR UN2113	
Q303	8-729-424-18	TRANSISTOR UN2113	
Q401	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q403	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q501	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q503	8-729-231-55	TRANSISTOR 2SC2878-AB	
		< RESISTOR >	
R221	1-216-097-91	METAL GLAZE 100K 5%	1/10W
R222	1-216-097-91	METAL GLAZE 100K 5%	1/10W
R321	1-216-097-91	METAL GLAZE 100K 5%	1/10W
R405	1-259-458-11	CARBON 18K 5%	1/6W
R406	1-259-458-11	CARBON 18K 5%	1/6W
R407	1-259-460-11	CARBON 22K 5%	1/6W
R408	1-259-460-11	CARBON 22K 5%	1/6W
R409	1-259-427-11	CARBON 910 5%	1/6W
R410	1-259-434-11	CARBON 1.8K 5%	1/6W
R411	1-259-488-11	CARBON 330K 5%	1/6W
R412	1-259-422-11	CARBON 560 5%	1/6W
R413	1-259-422-11	CARBON 560 5%	1/6W
R414	1-259-380-11	CARBON 10 5%	1/6W
R415	1-259-422-11	CARBON 560 5%	1/6W
R417	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R419	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R420	1-259-423-11	CARBON 620 5%	1/6W
R505	1-259-458-11	CARBON 18K 5%	1/6W
R506	1-259-458-11	CARBON 18K 5%	1/6W
R507	1-259-460-11	CARBON 22K 5%	1/6W
R508	1-259-460-11	CARBON 22K 5%	1/6W
R509	1-259-427-11	CARBON 910 5%	1/6W
R510	1-259-434-11	CARBON 1.8K 5%	1/6W
R511	1-259-488-11	CARBON 330K 5%	1/6W
R512	1-259-422-11	CARBON 560 5%	1/6W

Ref. No.	Part No.	Description	Remark
R513	1-259-422-11	CARBON 560 5%	1/6W
R514	1-259-380-11	CARBON 10 5%	1/6W
R515	1-259-422-11	CARBON 560 5%	1/6W
R517	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R519	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R520	1-259-423-11	CARBON 620 5%	1/6W
R706	1-216-049-91	METAL GLAZE 1K 5%	1/10W (US,Canadian)
R711	1-216-009-00	METAL CHIP 22 5%	1/10W
R713	1-216-022-00	METAL CHIP 75 5%	1/10W
R803	1-216-182-00	METAL GLAZE 220 5%	1/8W
R804	1-216-182-00	METAL GLAZE 220 5%	1/8W
R805	1-216-182-00	METAL GLAZE 220 5%	1/8W
R806	1-216-198-91	METAL GLAZE 1K 5%	1/8W
R807	1-216-198-91	METAL GLAZE 1K 5%	1/8W
R808	1-216-198-91	METAL GLAZE 1K 5%	1/8W
R809	1-216-198-91	METAL GLAZE 1K 5%	1/8W
R810	1-216-198-91	METAL GLAZE 1K 5%	1/8W
R819	1-259-464-11	CARBON 33K 5%	1/6W
R820	1-259-464-11	CARBON 33K 5%	1/6W
R821	1-259-464-11	CARBON 33K 5%	1/6W
R822	1-259-464-11	CARBON 33K 5%	1/6W
R823	1-259-464-11	CARBON 33K 5%	1/6W
R824	1-259-464-11	CARBON 33K 5%	1/6W
R825	1-259-464-11	CARBON 33K 5%	1/6W
R826	1-259-464-11	CARBON 33K 5%	1/6W
R829	1-216-049-91	METAL GLAZE 1K 5%	1/10W
R830	1-216-121-91	METAL GLAZE 1M 5%	1/10W
		< TRANSFORMER >	
T701	1-459-795-11	COIL (WITH CORE)	

*	A-6065-057-A	FP-611 BOARD, COMPLETE (US,Canadian)
*	A-6065-045-A	FP-619 BOARD, COMPLETE (Chinese,Hong Kong,Singapore)
		**********
		(Ref.No. 2,000 Series)
	3-884-241-01	SHEET (C), ADHESIVE
		< CAPACITOR >
C001	1-163-031-11	CERAMIC CHIP 0.01uF 50V
C002	1-126-163-11	ELECT 4.7uF 20% 50V
C003	1-163-251-11	CERAMIC CHIP 100PF 5% 50V
C004	1-124-589-11	ELECT 47uF 20% 16V
C005	1-165-319-11	CERAMIC CHIP 0.1uF 50V
C006	1-124-589-11	ELECT 47uF 20% 16V
C007	1-124-589-11	ELECT 47uF 20% 16V
C008	1-124-248-00	ELECT 22uF 20% 35V
C009	1-126-163-11	ELECT 4.7uF 20% 50V
C010	1-126-154-11	ELECT 47uF 20% 6.3V
C011	1-163-031-11	CERAMIC CHIP 0.01uF 50V
C012	1-165-319-11	CERAMIC CHIP 0.1uF 50V
C104	1-165-319-11	CERAMIC CHIP 0.1uF 50V
C105	1-165-319-11	CERAMIC CHIP 0.1uF 50V
C106	1-163-031-11	CERAMIC CHIP 0.01uF 50V
C107	1-163-031-11	CERAMIC CHIP 0.01uF 50V
C108	1-163-031-11	CERAMIC CHIP 0.01uF 50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-691-647-11	SOCKET, CONNECTOR 13P			
CN151	1-506-486-11	PIN, CONNECTOR 7P			
		< DIODE >			
D001	8-719-210-39	DIODE EC10QS-04			
D003	8-719-210-39	DIODE EC10QS-04			
D004	8-719-420-90	DIODE MA8051-M			
D005	8-719-977-69	DIODE DTZ24B			
D006	8-719-404-49	DIODE MA111 (US,Canadian)			
D007	8-719-404-49	DIODE MA111 (US,Canadian)			
D101	8-719-404-49	DIODE MA111			
D102	8-719-404-49	DIODE MA111			
D103	8-719-032-98	LED SEL5820A-TP15 (DNR) (Chinese,Hong Kong,Singapore)			
		< FERRITE BEAD >			
FB101	1-414-135-11	INDUCTOR CHIP 0UH			
FB102	1-414-135-11	INDUCTOR CHIP 0UH			
* FB103	1-500-449-21	BEAD, FERRITE (SMD)			
		< FILTER >			
FL001	1-233-893-21	FILTER, CHIP EMI			
		< IC >			
IC001	8-759-438-82	IC uPD16311GC-AB6			
		< COIL >			
L001	1-414-185-41	INDUCTOR 22uH			
		< FLUORECENT INDICATOR >			
ND001	1-517-639-11	TUBE, FLUORESCENT INDICATOR			
		< TRANSISTOR >			
Q001	8-729-105-29	TRANSISTOR 2SA1385			
Q002	8-729-010-05	TRANSISTOR MSB709-RT1			
		< RESISTOR >			
R001	1-216-009-00	METAL CHIP	22	5%	1/10W
R002	1-216-073-00	METAL CHIP	10K	5%	1/10W
R003	1-216-073-00	METAL CHIP	10K	5%	1/10W
R004	1-216-081-00	METAL CHIP	22K	5%	1/10W
R005	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R006	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R007	1-216-073-00	METAL CHIP	10K	5%	1/10W
R013	1-216-091-00	METAL CHIP	56K	5%	1/10W
R014	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R019	1-216-025-91	METAL GLAZE	100	5%	1/10W
R020	1-216-025-91	METAL GLAZE	100	5%	1/10W
R021	1-216-025-91	METAL GLAZE	100	5%	1/10W
R023	1-216-073-00	METAL CHIP	10K	5%	1/10W
R024	1-216-073-00	METAL CHIP	10K	5%	1/10W
R025	1-216-073-00	METAL CHIP	10K	5%	1/10W
R026	1-216-073-00	METAL CHIP	10K	5%	1/10W
R105	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R106	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R107	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R108	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R109	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R110	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R111	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R112	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R115	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R116	1-216-037-00	METAL CHIP	330	5%	1/10W (Chinese,Hong Kong,Singapore)
R117	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< SWITCH >			
S101	1-762-365-21	SWITCH, TACTILE (RETURN)			
S102	1-762-365-21	SWITCH, TACTILE (ENTER)			
S103	1-762-365-21	SWITCH, TACTILE (TITLE)			
S104	1-762-365-21	SWITCH, TACTILE (DVD MENU)			
S105	1-771-215-11	SWITCH, TACTILE (←/↑/↓/→)			
S109	1-762-365-21	SWITCH, TACTILE (OPEN/CLOSE)			
S110	1-762-365-21	SWITCH, TACTILE (PREV)			
S111	1-762-365-21	SWITCH, TACTILE (NEXT)			
S112	1-762-365-21	SWITCH, TACTILE (PAUSE)			
S113	1-762-365-21	SWITCH, TACTILE (PLAY)			
S114	1-762-365-21	SWITCH, TACTILE (STOP)			
S115	1-762-365-21	SWITCH, TACTILE (DISPLAY/DNR)			
		< TRANSFORMER >			
T001	1-448-740-31	TRANSFORMER, DC-DC CONVERTER			
*	A-6065-053-A	LM-56 BOARD, COMPLETE ********** (Ref.No. 3,000 Series)			
		< CONNECTOR >			
CN501	1-691-799-11	SOCKET, CONNECTOR 8P			
		< IC >			
IC501	8-719-052-42	IC ELEMENT, HOLE HW-108A-FT(D)			
IC502	8-719-052-42	IC ELEMENT, HOLE HW-108A-FT(D)			
		MB-80 BOARD, COMPLETE ********** (Ref.No. 1,000 Series)			
		< CAPACITOR >			
C005	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C009	1-126-204-11	ELECT CHIP	47uF	20%	16V
C010	1-126-204-11	ELECT CHIP	47uF	20%	16V
C012	1-128-004-11	ELECT CHIP	10uF	20%	16V
C013	1-128-004-11	ELECT CHIP	10uF	20%	16V
C014	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C015	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C016	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C017	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C018	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C020	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C021	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C023	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C027	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C029	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C035	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C036	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C037	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C039	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C040	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C041	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C042	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C043	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C044	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C046	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C047	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C048	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C049	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C051	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C052	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C053	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C054	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C055	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C057	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C058	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C070	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V
C071	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C074	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C075	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C076	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C077	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C078	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C079	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C080	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C081	1-128-004-11	ELECT CHIP	10uF	20%	16V
C082	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C083	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C084	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C086	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C087	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C088	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C089	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C091	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C092	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C096	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C097	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C098	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C099	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C100	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C101	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C105	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C107	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C108	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C109	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C110	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C117	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C118	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C120	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C122	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C123	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C124	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C125	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C126	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C127	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C128	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C129	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C130	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C134	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C136	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C137	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C139	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C140	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C142	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C143	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C144	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C147	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C148	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C150	1-128-004-11	ELECT CHIP	10uF	20%	16V
C151	1-128-004-11	ELECT CHIP	10uF	20%	16V
C152	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C154	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C156	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C158	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C159	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C160	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C161	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C162	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C164	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C165	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C166	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C167	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C169	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C170	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C171	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C172	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C173	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C174	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C180	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C181	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C182	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C183	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C184	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C185	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C188	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C189	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C190	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C191	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C192	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C193	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C194	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C195	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C196	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C198	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C199	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C205	1-128-004-11	ELECT CHIP	10uF	20%	16V
C206	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C207	1-128-004-11	ELECT CHIP	10uF	20%	16V
C208	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C209	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C210	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C211	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C212	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C213	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C214	1-128-004-11	ELECT CHIP	10uF	20%	16V
C215	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C216	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C217	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C218	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C219	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C220	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C221	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C222	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C223	1-128-004-11	ELECT CHIP	10uF	20%	16V
C224	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C225	1-128-004-11	ELECT CHIP	10uF	20%	16V
C226	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C230	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C231	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C232	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C234	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C235	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C236	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C237	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C238	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C239	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C240	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C241	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C242	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C243	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C245	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C247	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C248	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C250	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C251	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C252	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C253	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C255	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C256	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C257	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C265	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C266	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C267	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C268	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C270	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C271	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C272	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C273	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C274	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C275	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C276	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C277	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C278	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C279	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C280	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C281	1-104-535-11	FILM CHIP	470PF	5%	50V
C282	1-104-537-11	FILM CHIP	680PF	5%	50V
C284	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C285	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C286	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C287	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C288	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C291	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C307	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C308	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C313	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C316	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C318	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C319	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C320	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C323	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C324	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C325	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C326	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C327	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (US,Canadian)
C328	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (US,Canadian)
C329	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (US,Canadian)
C331	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (US,Canadian)
C333	1-128-004-11	ELECT CHIP	10uF	20%	16V
C334	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C361	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C362	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C363	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C369	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C371	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C372	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C374	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C375	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C376	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C378	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C379	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C381	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C384	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C385	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C386	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C387	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C388	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C389	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C390	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C395	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C396	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C400	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C403	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C404	1-128-004-11	ELECT CHIP	10uF	20%	16V
C405	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V

Ref. No.	Part No.	Description			Remark
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C407	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C409	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C411	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C418	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C419	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C420	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C429	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C430	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C431	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C433	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C434	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C439	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C440	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C441	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C442	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C443	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C444	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C446	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C447	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C448	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C449	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C451	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C452	1-128-004-11	ELECT CHIP	10uF	20%	16V
C454	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C455	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C456	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C457	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C458	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C459	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C460	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C461	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C462	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C463	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C466	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C469	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C475	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C476	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C477	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C480	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C481	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C483	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C484	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C486	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C487	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C490	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C492	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C493	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C494	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C495	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C496	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C497	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C498	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C499	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C500	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C501	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C502	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C515	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C518	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C519	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C520	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C522	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C523	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C524	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C525	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C526	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C528	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C529	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C530	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C531	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C532	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C533	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C534	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C535	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C536	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C537	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C538	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C539	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C540	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C541	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C542	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C543	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C544	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C545	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C546	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C547	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C548	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C549	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C550	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C552	1-128-004-11	ELECT CHIP	10uF	20%	16V
C554	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C555	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C558	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C574	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C575	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C577	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C580	1-128-004-11	ELECT CHIP	10uF	20%	16V
C581	1-128-004-11	ELECT CHIP	10uF	20%	16V
C583	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C585	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C586	1-128-596-11	ELECT CHIP	3.3uF	20%	50V
C587	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C588	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C589	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C590	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C591	1-128-004-11	ELECT CHIP	10uF	20%	16V
C592	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C593	1-164-346-11	CERAMIC CHIP	1uF		16V
C594	1-164-346-11	CERAMIC CHIP	1uF		16V
C595	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C596	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C598	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C599	1-164-346-11	CERAMIC CHIP	1uF		16V
C600	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C601	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C602	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C603	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V

Ref. No.	Part No.	Description			Remark
C604	1-128-004-11	ELECT CHIP	10uF	20%	16V
C605	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C606	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C607	1-164-346-11	CERAMIC CHIP	1uF		16V
C608	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C609	1-128-004-11	ELECT CHIP	10uF	20%	16V
C610	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C611	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C612	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C613	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C614	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C615	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C616	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C617	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C618	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C619	1-164-346-11	CERAMIC CHIP	1uF		16V
C620	1-126-204-11	ELECT CHIP	47uF	20%	16V
C621	1-164-346-11	CERAMIC CHIP	1uF		16V
C622	1-126-204-11	ELECT CHIP	47uF	20%	16V
C623	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C624	1-128-004-11	ELECT CHIP	10uF	20%	16V
C625	1-128-004-11	ELECT CHIP	10uF	20%	16V
C626	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C627	1-164-346-11	CERAMIC CHIP	1uF		16V
C628	1-128-004-11	ELECT CHIP	10uF	20%	16V
C629	1-128-004-11	ELECT CHIP	10uF	20%	16V
C630	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C633	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C634	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C635	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C636	1-164-346-11	CERAMIC CHIP	1uF		16V
C637	1-126-204-11	ELECT CHIP	47uF	20%	16V
C638	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C639	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C640	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C641	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C642	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C643	1-164-346-11	CERAMIC CHIP	1uF		16V
C644	1-164-346-11	CERAMIC CHIP	1uF		16V
C645	1-126-204-11	ELECT CHIP	47uF	20%	16V
C646	1-164-346-11	CERAMIC CHIP	1uF		16V
C647	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C648	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C649	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C650	1-164-346-11	CERAMIC CHIP	1uF		16V
C651	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C652	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C653	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C654	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C655	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C656	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C657	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C658	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C659	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C660	1-164-346-11	CERAMIC CHIP	1uF		16V
C662	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C663	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C664	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C671	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C672	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C674	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C676	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C678	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C679	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C802	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C803	1-104-852-11	TANTAL. CHIP	22uF	20%	10V (Chinese,Hong Kong,Singapore)
C804	1-104-852-11	TANTAL. CHIP	22uF	20%	10V (Chinese,Hong Kong,Singapore)
C805	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C806	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C808	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C810	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C811	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C812	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C813	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C814	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C815	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C816	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C817	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C818	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C819	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C820	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C821	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C822	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (Chinese,Hong Kong,Singapore)
C901	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C903	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C904	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C905	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C906	1-128-004-11	ELECT CHIP	10uF	20%	16V
		< CONNECTOR >			
CN005	1-779-344-11	CONNECTOR, FFC/FPC 20P			
CN008	1-573-806-21	PIN, CONNECTOR (1.5MM) (SMD)6P			
* CN009	1-784-023-21	CONNECTOR, FLEXIBLE 13P			
* CN011	1-564-507-11	PLUG, CONNECTOR 4P			

Ref. No.	Part No.	Description	Remark
* CN135	1-573-304-11	CONNECTOR, BOARD TO BOARD 8P	
CN381	1-774-766-11	CONNECTOR, FFC/FPC 11P	
* CN382	1-770-469-21	PIN, CONNECTOR (PC BOARD) 2P	
CN885	1-779-343-11	CONNECTOR, FFC/FPC 23P	
CN886	1-779-343-11	CONNECTOR, FFC/FPC 23P	
CN980	1-779-343-11	CONNECTOR, FFC/FPC 23P	
CN981	1-573-768-21	PIN, CONNECTOR (1.5MM) (SMD)5P	
		< TRIMMER >	
CT001	1-141-422-11	CAP, ADJ 10PF	
CT002	1-141-422-11	CAP, ADJ 10PF	
		< DIODE >	
D001	8-719-055-86	DIODE KV1470TL1-3	
D037	8-719-420-14	DIODE MA8082-M (US,Canadian)	
D601	8-719-404-49	DIODE MA111	
D766	8-719-421-27	DIODE MA728	
D886	8-719-404-49	DIODE MA111	
		< FUSE >	
⚠F001	1-533-710-11	FUSE (SMD)(1.6A)	
⚠F003	1-533-771-21	FUSE (SMD)(0.8A)	
⚠F005	1-533-771-21	FUSE (SMD)(0.8A)	
⚠F006	1-533-710-11	FUSE (SMD)(1.6A)	
⚠F007	1-533-710-11	FUSE (SMD)(1.6A)	
⚠F008	1-533-710-11	FUSE (SMD)(1.6A)	
⚠F009	1-533-710-11	FUSE (SMD)(1.6A)	
⚠F010	1-533-771-21	FUSE (SMD)(0.8A)	
⚠F011	1-533-771-21	FUSE (SMD)(0.8A)	
⚠F805	1-533-855-21	FUSE (SMD)(0.125A)	
⚠F806	1-533-855-21	FUSE (SMD)(0.125A)	
		< FERRITE BEAD >	
FB005	1-414-553-11	INDUCTOR 0UH	
FB006	1-414-553-11	INDUCTOR 0UH	
FB008	1-414-553-11	INDUCTOR 0UH	
FB015	1-414-553-11	INDUCTOR 0UH	
FB053	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB054	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB055	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB056	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB059	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB060	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB061	1-500-283-11	INDUCTOR, FERRITE BEAD	
FB180	1-412-390-21	INDUCTOR CHIP 0uH	
FB181	1-412-390-21	INDUCTOR CHIP 0uH	
		< FILTER >	
FL001	1-233-893-21	FILTER, CHIP EMI	
FL002	1-233-893-21	FILTER, CHIP EMI	
FL003	1-239-400-11	FILTER, CHIP EMI	
FL004	1-239-400-11	FILTER, CHIP EMI	
FL005	1-233-893-21	FILTER, CHIP EMI	
FL006	1-233-893-21	FILTER, CHIP EMI	
FL007	1-239-400-11	FILTER, CHIP EMI	
FL008	1-233-893-21	FILTER, CHIP EMI	
FL009	1-233-893-21	FILTER, CHIP EMI	
FL010	1-239-400-11	FILTER, CHIP EMI	
FL011	1-233-893-21	FILTER, CHIP EMI	
FL012	1-239-400-11	FILTER, CHIP EMI	
FL013	1-233-893-21	FILTER, CHIP EMI	
FL014	1-233-893-21	FILTER, CHIP EMI	
FL015	1-239-400-11	FILTER, CHIP EMI	
FL016	1-233-893-21	FILTER, CHIP EMI	
FL033	1-233-893-21	FILTER, CHIP EMI	
FL034	1-233-893-21	FILTER, CHIP EMI	
FL035	1-233-893-21	FILTER, CHIP EMI	
FL036	1-239-400-11	FILTER, CHIP EMI	
FL037	1-239-400-11	FILTER, CHIP EMI	
FL038	1-239-400-11	FILTER, CHIP EMI	
FL039	1-233-893-21	FILTER, CHIP EMI	
FL040	1-233-893-21	FILTER, CHIP EMI	
FL041	1-233-893-21	FILTER, CHIP EMI	
FL042	1-233-893-21	FILTER, CHIP EMI	
FL043	1-233-893-21	FILTER, CHIP EMI	
FL044	1-233-893-21	FILTER, CHIP EMI	
FL045	1-233-893-21	FILTER, CHIP EMI	
FL090	1-233-893-21	FILTER, CHIP EMI	
FL091	1-233-893-21	FILTER, CHIP EMI	
FL092	1-233-893-21	FILTER, CHIP EMI	
FL093	1-233-893-21	FILTER, CHIP EMI	
FL135	1-233-893-21	FILTER, CHIP EMI	
FL136	1-233-893-21	FILTER, CHIP EMI	
FL137	1-233-893-21	FILTER, CHIP EMI	
FL138	1-233-893-21	FILTER, CHIP EMI	
FL139	1-233-893-21	FILTER, CHIP EMI	
FL180	1-233-893-21	FILTER, CHIP EMI	
FL181	1-233-893-21	FILTER, CHIP EMI	
FL182	1-233-893-21	FILTER, CHIP EMI	
FL183	1-239-400-11	FILTER, CHIP EMI	
FL184	1-239-400-11	FILTER, CHIP EMI	
FL185	1-233-893-21	FILTER, CHIP EMI	
FL186	1-233-893-21	FILTER, CHIP EMI	
FL215	1-233-893-21	FILTER, CHIP EMI	
FL216	1-233-893-21	FILTER, CHIP EMI	
FL217	1-233-893-21	FILTER, CHIP EMI	
FL280	1-233-893-21	FILTER, CHIP EMI	
FL281	1-233-893-21	FILTER, CHIP EMI	
FL282	1-233-893-21	FILTER, CHIP EMI	
FL283	1-233-893-21	FILTER, CHIP EMI	
FL284	1-233-893-21	FILTER, CHIP EMI	
FL285	1-233-893-21	FILTER, CHIP EMI	
FL310	1-233-893-21	FILTER, CHIP EMI	
FL311	1-233-893-21	FILTER, CHIP EMI	
FL312	1-233-893-21	FILTER, CHIP EMI	
FL313	1-233-893-21	FILTER, CHIP EMI	
FL314	1-233-893-21	FILTER, CHIP EMI	

(Chinese,Hong Kong,Singapore)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
FL315	1-233-893-21	FILTER, CHIP EMI	(Chinese,Hong Kong,Singapore)
FL316	1-233-893-21	FILTER, CHIP EMI	(Chinese,Hong Kong,Singapore)
FL380	1-233-893-21	FILTER, CHIP EMI	
FL381	1-233-893-21	FILTER, CHIP EMI	
FL382	1-233-893-21	FILTER, CHIP EMI	
FL383	1-239-400-11	FILTER, CHIP EMI	
FL384	1-239-400-11	FILTER, CHIP EMI	
FL475	1-233-893-21	FILTER, CHIP EMI	
FL476	1-233-893-21	FILTER, CHIP EMI	
FL477	1-239-400-11	FILTER, CHIP EMI	
FL479	1-233-894-21	FILTER, LOW PASS (14MHz)	
FL480	1-233-893-21	FILTER, CHIP EMI	
FL481	1-233-893-21	FILTER, CHIP EMI	
FL482	1-239-400-11	FILTER, CHIP EMI	
FL483	1-239-400-11	FILTER, CHIP EMI	
FL484	1-233-893-21	FILTER, CHIP EMI	
FL716	1-233-893-21	FILTER, CHIP EMI	
FL717	1-233-893-21	FILTER, CHIP EMI	
		< IC >	
IC002	8-759-449-38	IC MSM10S0050-039GS-2K	
IC003	8-759-431-14	IC PQ3TZ53U	
IC004	8-759-510-71	IC BA10358F-E2	
IC005	8-759-431-14	IC PQ3TZ53U	
IC006	8-759-981-48	IC RC082M2G2	
IC008	8-759-271-88	IC TC7SHU04FU-TE85R	
IC009	8-759-271-88	IC TC7SHU04FU-TE85R	
IC010	8-759-447-77	IC TC7WH74FU(TR12R)	
IC011	8-759-447-77	IC TC7WH74FU(TR12R)	
IC012	8-759-081-44	IC TC74VHC04F(EL)	
IC015	8-759-434-20	IC PST572DML	
IC016	8-759-423-49	IC MC74F125MEL	
IC017	8-759-058-58	IC TC7S04FU(TE85R)	
IC021	8-759-481-49	IC MB89099PF-G-DPX1010U-BND	(US,Canadian)
IC021	8-759-481-50	IC MB89099PF-G-DPX1010E-BND	(Chinese,Hong Kong,Singapore)
IC022	8-759-356-27	IC NJM2129M-TE2 (US,Canadian)	
IC024	8-759-196-97	IC TC7SH32FU-TE85R	
IC025	8-759-196-93	IC TC7SH00FU-TE85R	
IC026	8-759-196-93	IC TC7SH00FU-TE85R	
IC027	8-759-271-86	IC TC7SH04FU-TE85R	
IC028	8-759-271-86	IC TC7SH04FU-TE85R	
IC090	8-759-489-89	IC HD6437034AD49F	
IC092	8-759-058-62	IC TC7S08FU(TE85R)	
IC093	8-759-481-47	IC MSM534002C-DPX1010GS-AKR1	
IC094	8-759-449-34	IC HM628128ALFP-5	
IC095	8-759-344-37	IC MC74AC138MEL	
IC096	8-759-423-32	IC MC74AC32MEL	
IC097	8-759-096-87	IC TC7WU04FU(TE12R)	
IC098	8-759-423-49	IC MC74F125MEL	
IC099	8-759-180-53	IC TC74AC244FS-EL	
IC100	8-759-423-38	IC MC74ACT245MEL	
IC101	8-759-423-38	IC MC74ACT245MEL	
IC102	8-759-423-49	IC MC74F125MEL	
IC103	8-759-423-33	IC MC74AC74MEL	
IC104	8-759-180-53	IC TC74AC244FS-EL	
IC105	8-759-180-53	IC TC74AC244FS-EL	
IC106	8-759-423-38	IC MC74ACT245MEL	
IC135	8-759-180-53	IC TC74AC244FS-EL	
IC136	8-759-427-97	IC HD6413002F17	
IC137	8-759-344-37	IC MC74AC138MEL	
IC138	8-759-448-51	IC N341256SO-55TE2	
IC139	8-759-468-72	IC AK6420HM-E2	
IC140	8-759-481-51	IC MSM532000B-DPX1010RS	
IC141	8-759-423-49	IC MC74F125MEL	
IC142	8-759-180-53	IC TC74AC244FS-EL	
IC144	8-759-196-97	IC TC7SH32FU-TE85R	
IC145	8-759-423-49	IC MC74F125MEL	
IC146	8-759-096-87	IC TC7WU04FU(TE12R)	
IC147	8-759-270-56	IC SN74HC377ANS-E20	
IC148	8-759-270-56	IC SN74HC377ANS-E20	
IC149	8-759-270-56	IC SN74HC377ANS-E20	
IC150	8-759-270-56	IC SN74HC377ANS-E20	
IC154	8-759-058-62	IC TC7S08FU(TE85R)	
IC180	8-759-423-33	IC MC74AC74MEL	
IC181	8-759-460-93	IC CXD8663Q	
IC182	8-759-490-27	IC HM514800CLJ7Z	
IC183	8-759-196-97	IC TC7SH32FU-TE85R	
IC184	8-759-460-94	IC CXD8669AQ	
IC185	8-759-082-57	IC TC7W04FU(TE12R)	
IC215	8-759-448-51	IC N341256SO-55TE2	
IC216	8-752-363-62	IC CXD1186CQ	
IC217	8-759-449-40	IC CXD8598R	
IC219	8-759-423-49	IC MC74F125MEL	
IC280	8-759-389-93	IC HM514260CTT-7Z	
IC281	8-752-386-59	IC CXD1900BQ	
IC282	8-759-389-93	IC HM514260CTT-7Z	
IC283	8-759-389-93	IC HM514260CTT-7Z	
IC284	8-759-389-93	IC HM514260CTT-7Z	
IC310	8-759-449-39	IC CXD8602Q	
IC311	8-759-350-08	IC MSM518222B-30GS-KR1	
IC312	8-759-449-45	IC CXD8600R	
IC313	8-759-449-34	IC HM628128ALFP-5	
IC315	8-759-186-57	IC TC74VHC175F(EL)	
IC316	8-759-442-77	IC MSM518126-50JSDR1	(Chinese,Hong Kong,Singapore)
IC317	8-759-453-79	IC CXD8664Q	(Chinese,Hong Kong,Singapore)
IC318	8-752-381-72	IC CXD1853Q	(Chinese,Hong Kong,Singapore)
IC380	8-759-490-29	IC CXD8603BR	
IC381	8-759-449-42	IC DSP56009	
IC382	8-759-082-57	IC TC7W04FU(TE12R)	
IC383	8-759-448-51	IC N341256SO-55TE2	
IC385	8-759-058-62	IC TC7S08FU(TE85R)	
IC474	8-759-711-58	IC NJM78L05UA	
IC475	8-752-379-07	IC CXD1914Q	
IC485	8-759-066-59	IC TC74HC4053AFS-EL	
IC486	8-759-066-59	IC TC74HC4053AFS-EL	
IC487	8-759-066-59	IC TC74HC4053AFS-EL	
IC491	8-759-449-30	IC MB90091APF-G-001-BND	
IC492	8-759-186-26	IC TC74VHC02F(EL)	
IC493	8-759-079-46	IC TC74VHC00FS(EL)	
IC494	8-759-490-77	IC MSM534001C-CPX1010GS-KR1	
IC717	8-752-369-78	IC CXD2545Q	

Ref. No.	Part No.	Description	Remark
IC722	8-759-067-52	IC MB88347PFV-G-BND-ER	
IC723	8-759-510-73	IC BA10393F-E2	
IC768	8-759-448-71	IC BU4053BCFV-E2	
IC769	8-759-331-71	IC NJM4558E(TE2)	
IC770	8-759-449-41	IC CXD8599Q	
IC771	8-759-701-36	IC NJM3403AM(TE2)	
IC775	8-759-510-71	IC BA10358F-E2	
IC777	8-759-510-73	IC BA10393F-E2	
IC778	8-759-510-73	IC BA10393F-E2	
IC886	8-759-701-36	IC NJM3403AM(TE2)	
IC887	8-759-333-63	IC LB1896-TE-B	
IC888	8-759-701-39	IC NJM3404AM	
IC889	8-759-384-55	IC LA6527N-TE-B	
IC890	8-759-449-55	IC BA5970FP-E2	
IC891	8-759-452-00	IC BA6295AFP-E2	
IC892	8-759-448-71	IC BU4053BCFV-E2	
IC982	8-759-701-39	IC NJM3404AM	
IC983	8-759-448-71	IC BU4053BCFV-E2	
		< COIL >	
L003	1-409-529-41	COIL, CHOKE 10uH	
L004	1-409-529-41	COIL, CHOKE 10uH	
L005	1-409-529-41	COIL, CHOKE 10uH	
L006	1-409-529-41	COIL, CHOKE 10uH	
L013	1-412-939-11	INDUCTOR 1uH	
L014	1-412-939-11	INDUCTOR 1uH	
L020	1-414-755-11	INDUCTOR 22uH	
L475	1-409-556-11	COIL, CHOKE 47uH	
L476	1-414-755-11	INDUCTOR 22uH	
L477	1-414-755-11	INDUCTOR 22uH	
L483	1-414-755-11	INDUCTOR 22uH	
L484	1-414-755-11	INDUCTOR 22uH	
L485	1-216-295-11	CONDUCTOR, CHIP (2012)	
L486	1-216-295-11	CONDUCTOR, CHIP (2012)	
L488	1-414-755-11	INDUCTOR 22uH	
L489	1-414-755-11	INDUCTOR 22uH	
L492	1-409-556-11	COIL, CHOKE 47uH	
L496	1-414-755-11	INDUCTOR 22uH	
L769	1-409-556-11	COIL, CHOKE 47uH	
L770	1-414-756-11	INDUCTOR 47uH	
L771	1-409-556-11	COIL, CHOKE 47uH	
L773	1-414-756-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q003	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q004	8-729-922-65	TRANSISTOR 2SD1760F5-PQR	
Q090	8-729-015-76	TRANSISTOR UN5211-TX	
Q091	8-729-015-76	TRANSISTOR UN5211-TX	
Q496	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q497	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q498	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q499	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q500	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q501	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q502	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q508	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q511	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q515	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q516	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q520	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q521	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q522	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q526	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q527	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q528	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q532	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q533	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q534	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q538	8-729-143-13	TRANSISTOR 2SC4176-B34	
Q539	8-729-143-13	TRANSISTOR 2SC4176-B34	
Q540	8-729-143-07	TRANSISTOR 2SA1610-Y33	
Q542	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q543	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q544	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q545	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q546	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q547	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q552	8-729-403-35	TRANSISTOR UN5113	
Q563	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q564	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q565	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q566	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q567	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q568	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
Q584	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q585	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q586	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q587	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q588	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q589	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q765	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q766	8-729-015-76	TRANSISTOR UN5211-TX	
Q886	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q887	8-729-403-35	TRANSISTOR UN5113	
Q888	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q889	8-729-822-84	TRANSISTOR 2SB1202FAST	
Q890	8-729-403-35	TRANSISTOR UN5113	
Q891	8-729-403-35	TRANSISTOR UN5113	
		< RESISTOR >	
R002	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R003	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R004	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R005	1-216-801-11	METAL CHIP 22 5% 1/16W	
R006	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R007	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R008	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R009	1-216-801-11	METAL CHIP 22 5% 1/16W	
R010	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R011	1-216-801-11	METAL CHIP 22 5% 1/16W	
R012	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R013	1-216-801-11	METAL CHIP 22 5% 1/16W	
R014	1-216-793-11	METAL GLAZE 4.7 5% 1/16W	
R015	1-216-793-11	METAL GLAZE 4.7 5% 1/16W	
R016	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R017	1-216-801-11	METAL CHIP 22 5% 1/16W	
R020	1-216-801-11	METAL CHIP 22 5% 1/16W	
R021	1-216-817-11	METAL CHIP 470 5% 1/16W	

Ref. No.	Part No.	Description			Remark
R022	1-216-801-11	METAL CHIP	22	5%	1/16W
R023	1-216-857-11	METAL CHIP	1M	5%	1/16W
R024	1-216-805-11	METAL CHIP	47	5%	1/16W
R025	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R026	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R027	1-216-845-11	METAL CHIP	100K	5%	1/16W
R028	1-216-845-11	METAL CHIP	100K	5%	1/16W
R030	1-216-837-11	METAL CHIP	22K	5%	1/16W
R031	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R032	1-216-809-11	METAL CHIP	100	5%	1/16W
R033	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R034	1-216-841-11	METAL CHIP	47K	5%	1/16W
R035	1-216-813-11	METAL CHIP	220	5%	1/16W
R036	1-216-842-11	METAL CHIP	56K	5%	1/16W
R037	1-216-839-11	METAL CHIP	33K	5%	1/16W
R038	1-216-837-11	METAL CHIP	22K	5%	1/16W
R039	1-216-837-11	METAL CHIP	22K	5%	1/16W
R041	1-216-198-91	METAL GLAZE	1K	5%	1/8W
R042	1-216-815-11	METAL CHIP	330	5%	1/16W
R043	1-216-198-91	METAL GLAZE	1K	5%	1/8W
R044	1-216-198-91	METAL GLAZE	1K	5%	1/8W
R045	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R047	1-216-833-11	METAL CHIP	10K	5%	1/16W
R052	1-216-821-11	METAL CHIP	1K	5%	1/16W
R057	1-216-833-11	METAL CHIP	10K	5%	1/16W
R058	1-216-821-11	METAL CHIP	1K	5%	1/16W
R062	1-216-797-11	METAL CHIP	10	5%	1/16W
R063	1-216-820-11	METAL CHIP	820	5%	1/16W
R067	1-216-801-11	METAL CHIP	22	5%	1/16W
R068	1-216-801-11	METAL CHIP	22	5%	1/16W
R074	1-216-821-11	METAL CHIP	1K	5%	1/16W
R075	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R076	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R077	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R078	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R079	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R080	1-216-833-11	METAL CHIP	10K	5%	1/16W
R081	1-216-809-11	METAL CHIP	100	5%	1/16W
R082	1-216-833-11	METAL CHIP	10K	5%	1/16W
R083	1-216-809-11	METAL CHIP	100	5%	1/16W
R084	1-216-833-11	METAL CHIP	10K	5%	1/16W
R085	1-216-809-11	METAL CHIP	100	5%	1/16W
R086	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R087	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R088	1-216-833-11	METAL CHIP	10K	5%	1/16W
R089	1-216-833-11	METAL CHIP	10K	5%	1/16W
R090	1-216-833-11	METAL CHIP	10K	5%	1/16W
R091	1-216-833-11	METAL CHIP	10K	5%	1/16W
R092	1-216-837-11	METAL CHIP	22K	5%	1/16W
R093	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R094	1-216-833-11	METAL CHIP	10K	5%	1/16W
R095	1-216-833-11	METAL CHIP	10K	5%	1/16W
R096	1-216-809-11	METAL CHIP	100	5%	1/16W
R097	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R098	1-216-857-11	METAL CHIP	1M	5%	1/16W
R100	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R101	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R102	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R103	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R104	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R105	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R106	1-216-801-11	METAL CHIP	22	5%	1/16W
R108	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R112	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R113	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R119	1-216-809-11	METAL CHIP	100	5%	1/16W
R120	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R122	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R123	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R124	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R125	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R126	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R127	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R128	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R129	1-216-841-11	METAL CHIP	47K	5%	1/16W
R130	1-216-841-11	METAL CHIP	47K	5%	1/16W
R131	1-216-841-11	METAL CHIP	47K	5%	1/16W
R132	1-216-841-11	METAL CHIP	47K	5%	1/16W
R134	1-216-821-11	METAL CHIP	1K	5%	1/16W
R136	1-216-821-11	METAL CHIP	1K	5%	1/16W
R137	1-216-821-11	METAL CHIP	1K	5%	1/16W
R138	1-216-821-11	METAL CHIP	1K	5%	1/16W
R139	1-216-821-11	METAL CHIP	1K	5%	1/16W
R141	1-216-833-11	METAL CHIP	10K	5%	1/16W
R143	1-216-833-11	METAL CHIP	10K	5%	1/16W
R144	1-216-833-11	METAL CHIP	10K	5%	1/16W
R145	1-216-841-11	METAL CHIP	47K	5%	1/16W
R146	1-216-801-11	METAL CHIP	22	5%	1/16W
R148	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R149	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R150	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R151	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R154	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R155	1-216-809-11	METAL CHIP	100	5%	1/16W
R156	1-216-864-11	METAL CHIP	0	5%	1/16W
R158	1-216-864-11	METAL CHIP	0	5%	1/16W
R162	1-216-809-11	METAL CHIP	100	5%	1/16W
R163	1-218-484-11	METAL GLAZE	750	5%	1/16W
R165	1-216-813-11	METAL CHIP	220	5%	1/16W
R166	1-216-813-11	METAL CHIP	220	5%	1/16W
R167	1-218-484-11	METAL GLAZE	750	5%	1/16W
R168	1-216-803-11	METAL CHIP	33	5%	1/16W
R169	1-216-803-11	METAL CHIP	33	5%	1/16W
R170	1-216-803-11	METAL CHIP	33	5%	1/16W
R171	1-216-803-11	METAL CHIP	33	5%	1/16W
R172	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R173	1-216-821-11	METAL CHIP	1K	5%	1/16W
R174	1-216-821-11	METAL CHIP	1K	5%	1/16W
R175	1-216-821-11	METAL CHIP	1K	5%	1/16W
R176	1-216-821-11	METAL CHIP	1K	5%	1/16W
R177	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R179	1-216-821-11	METAL CHIP	1K	5%	1/16W
R181	1-216-821-11	METAL CHIP	1K	5%	1/16W
R182	1-216-821-11	METAL CHIP	1K	5%	1/16W
R183	1-216-821-11	METAL CHIP	1K	5%	1/16W
R184	1-216-821-11	METAL CHIP	1K	5%	1/16W
R185	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R186	1-216-833-11	METAL CHIP	10K	5%	1/16W
R195	1-216-801-11	METAL CHIP	22	5%	1/16W
R196	1-216-833-11	METAL CHIP	10K	5%	1/16W
R197	1-216-833-11	METAL CHIP	10K	5%	1/16W
R198	1-216-833-11	METAL CHIP	10K	5%	1/16W
R199	1-216-833-11	METAL CHIP	10K	5%	1/16W
R200	1-216-833-11	METAL CHIP	10K	5%	1/16W
R201	1-216-833-11	METAL CHIP	10K	5%	1/16W
R202	1-216-809-11	METAL CHIP	100	5%	1/16W
R204	1-216-801-11	METAL CHIP	22	5%	1/16W
R206	1-216-809-11	METAL CHIP	100	5%	1/16W
R209	1-216-805-11	METAL CHIP	47	5%	1/16W
R212	1-216-833-11	METAL CHIP	10K	5%	1/16W
R213	1-216-813-11	METAL CHIP	220	5%	1/16W
R214	1-216-809-11	METAL CHIP	100	5%	1/16W
R215	1-216-801-11	METAL CHIP	22	5%	1/16W
R216	1-216-801-11	METAL CHIP	22	5%	1/16W
R217	1-216-805-11	METAL CHIP	47	5%	1/16W
R218	1-216-805-11	METAL CHIP	47	5%	1/16W
R219	1-216-805-11	METAL CHIP	47	5%	1/16W
R220	1-216-805-11	METAL CHIP	47	5%	1/16W
R221	1-216-805-11	METAL CHIP	47	5%	1/16W
R222	1-216-805-11	METAL CHIP	47	5%	1/16W
R223	1-216-805-11	METAL CHIP	47	5%	1/16W
R224	1-216-805-11	METAL CHIP	47	5%	1/16W
R225	1-216-805-11	METAL CHIP	47	5%	1/16W
R226	1-216-805-11	METAL CHIP	47	5%	1/16W
R227	1-216-805-11	METAL CHIP	47	5%	1/16W
R228	1-216-803-11	METAL CHIP	33	5%	1/16W
R229	1-216-805-11	METAL CHIP	47	5%	1/16W
R230	1-216-805-11	METAL CHIP	47	5%	1/16W
R231	1-216-805-11	METAL CHIP	47	5%	1/16W
R232	1-216-805-11	METAL CHIP	47	5%	1/16W
R233	1-216-837-11	METAL CHIP	22K	5%	1/16W
R235	1-216-833-11	METAL CHIP	10K	5%	1/16W
R241	1-216-809-11	METAL CHIP	100	5%	1/16W
R250	1-216-805-11	METAL CHIP	47	5%	1/16W
R251	1-216-805-11	METAL CHIP	47	5%	1/16W
R260	1-216-801-11	METAL CHIP	22	5%	1/16W
R269	1-216-801-11	METAL CHIP	22	5%	1/16W
R270	1-216-801-11	METAL CHIP	22	5%	1/16W
R271	1-216-801-11	METAL CHIP	22	5%	1/16W
R272	1-216-801-11	METAL CHIP	22	5%	1/16W
R273	1-216-809-11	METAL CHIP	100	5%	1/16W
R299	1-216-801-11	METAL CHIP	22	5%	1/16W
R300	1-216-801-11	METAL CHIP	22	5%	1/16W
R302	1-216-805-11	METAL CHIP	47	5%	1/16W
R303	1-216-805-11	METAL CHIP	47	5%	1/16W
R305	1-216-809-11	METAL CHIP	100	5%	1/16W
R307	1-216-805-11	METAL CHIP	47	5%	1/16W
R308	1-216-801-11	METAL CHIP	22	5%	1/16W
R309	1-216-809-11	METAL CHIP	100	5%	1/16W
R310	1-216-833-11	METAL CHIP	10K	5%	1/16W
R311	1-216-833-11	METAL CHIP	10K	5%	1/16W
R312	1-216-821-11	METAL CHIP	1K	5%	1/16W
R313	1-216-841-11	METAL CHIP	47K	5%	1/16W
R315	1-216-821-11	METAL CHIP	1K	5%	1/16W
R316	1-216-841-11	METAL CHIP	47K	5%	1/16W
R317	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R318	1-216-833-11	METAL CHIP	10K	5%	1/16W
R319	1-216-801-11	METAL CHIP	22	5%	1/16W
R320	1-216-801-11	METAL CHIP	22	5%	1/16W
R321	1-216-801-11	METAL CHIP	22	5%	1/16W
R325	1-216-801-11	METAL CHIP	22	5%	1/16W
R326	1-216-801-11	METAL CHIP	22	5%	1/16W
R327	1-216-801-11	METAL CHIP	22	5%	1/16W
R328	1-216-833-11	METAL CHIP	10K	5%	1/16W
R329	1-216-833-11	METAL CHIP	10K	5%	1/16W
R331	1-216-833-11	METAL CHIP	10K	5%	1/16W
R332	1-216-833-11	METAL CHIP	10K	5%	1/16W
R334	1-216-821-11	METAL CHIP	1K	5%	1/16W (US,Canadian)
R335	1-216-833-11	METAL CHIP	10K	5%	1/16W
R336	1-216-821-11	METAL CHIP	1K	5%	1/16W
R337	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R338	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R339	1-216-801-11	METAL CHIP	22	5%	1/16W
R340	1-216-801-11	METAL CHIP	22	5%	1/16W
R341	1-216-801-11	METAL CHIP	22	5%	1/16W
R342	1-216-813-11	METAL CHIP	220	5%	1/16W
R361	1-216-833-11	METAL CHIP	10K	5%	1/16W
R362	1-216-833-11	METAL CHIP	10K	5%	1/16W
R363	1-216-833-11	METAL CHIP	10K	5%	1/16W
R364	1-216-821-11	METAL CHIP	1K	5%	1/16W
R365	1-216-821-11	METAL CHIP	1K	5%	1/16W
R366	1-216-821-11	METAL CHIP	1K	5%	1/16W
R367	1-216-821-11	METAL CHIP	1K	5%	1/16W
R368	1-216-845-11	METAL CHIP	100K	5%	1/16W
R369	1-216-833-11	METAL CHIP	10K	5%	1/16W
R370	1-216-833-11	METAL CHIP	10K	5%	1/16W
R371	1-216-833-11	METAL CHIP	10K	5%	1/16W
R372	1-216-805-11	METAL CHIP	47	5%	1/16W
R373	1-216-805-11	METAL CHIP	47	5%	1/16W
R374	1-216-805-11	METAL CHIP	47	5%	1/16W
R375	1-216-805-11	METAL CHIP	47	5%	1/16W
R376	1-216-809-11	METAL CHIP	100	5%	1/16W
R377	1-216-809-11	METAL CHIP	100	5%	1/16W (US,Canadian)
R378	1-216-821-11	METAL CHIP	1K	5%	1/16W (US,Canadian)
R379	1-216-821-11	METAL CHIP	1K	5%	1/16W (US,Canadian)
R380	1-216-801-11	METAL CHIP	22	5%	1/16W
R382	1-216-809-11	METAL CHIP	100	5%	1/16W
R386	1-216-809-11	METAL CHIP	100	5%	1/16W
R387	1-216-841-11	METAL CHIP	47K	5%	1/16W
R388	1-216-833-11	METAL CHIP	10K	5%	1/16W
R389	1-216-801-11	METAL CHIP	22	5%	1/16W
R390	1-216-801-11	METAL CHIP	22	5%	1/16W
R391	1-216-801-11	METAL CHIP	22	5%	1/16W
R421	1-216-805-11	METAL CHIP	47	5%	1/16W
R422	1-216-805-11	METAL CHIP	47	5%	1/16W
R426	1-216-833-11	METAL CHIP	10K	5%	1/16W
R433	1-216-801-11	METAL CHIP	22	5%	1/16W
R434	1-216-801-11	METAL CHIP	22	5%	1/16W
R435	1-216-803-11	METAL CHIP	33	5%	1/16W
R436	1-216-803-11	METAL CHIP	33	5%	1/16W

Ref. No.	Part No.	Description			Remark
R437	1-216-807-11	METAL CHIP	68	5%	1/16W
R438	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R444	1-216-833-11	METAL CHIP	10K	5%	1/16W
R446	1-216-805-11	METAL CHIP	47	5%	1/16W
R447	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R448	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R449	1-216-809-11	METAL CHIP	100	5%	1/16W
R453	1-218-831-11	METAL GLAZE	220	0.50%	1/16W
R459	1-216-797-11	METAL CHIP	10	5%	1/16W
R463	1-218-831-11	METAL GLAZE	220	0.50%	1/16W
R464	1-216-801-11	METAL CHIP	22	5%	1/16W
R466	1-216-805-11	METAL CHIP	47	5%	1/16W
R467	1-216-805-11	METAL CHIP	47	5%	1/16W
R471	1-216-805-11	METAL CHIP	47	5%	1/16W
R472	1-216-815-11	METAL CHIP	330	5%	1/16W
R473	1-216-805-11	METAL CHIP	47	5%	1/16W
R474	1-216-805-11	METAL CHIP	47	5%	1/16W
R475	1-218-831-11	METAL GLAZE	220	0.50%	1/16W
R480	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R481	1-216-821-11	METAL CHIP	1K	5%	1/16W
R482	1-216-821-11	METAL CHIP	1K	5%	1/16W
R483	1-216-821-11	METAL CHIP	1K	5%	1/16W
R489	1-216-801-11	METAL CHIP	22	5%	1/16W
R491	1-216-805-11	METAL CHIP	47	5%	1/16W
R492	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R493	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R495	1-216-801-11	METAL CHIP	22	5%	1/16W
R498	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R499	1-216-801-11	METAL CHIP	22	5%	1/16W
R501	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R506	1-216-821-11	METAL CHIP	1K	5%	1/16W
R507	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R511	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R514	1-216-833-11	METAL CHIP	10K	5%	1/16W
R518	1-216-845-11	METAL CHIP	100K	5%	1/16W
R519	1-216-849-11	METAL CHIP	220K	5%	1/16W
R521	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R525	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R526	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R531	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R532	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R533	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R540	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R541	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R542	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R543	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R544	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R545	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R549	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R550	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R551	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R555	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R556	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R557	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R561	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R562	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R563	1-216-821-11	METAL CHIP	1K	5%	1/16W
R565	1-216-817-11	METAL CHIP	470	5%	1/16W
R566	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R567	1-216-833-11	METAL CHIP	10K	5%	1/16W
R568	1-216-821-11	METAL CHIP	1K	5%	1/16W
R569	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R570	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R571	1-216-807-11	METAL CHIP	68	5%	1/16W
R572	1-216-807-11	METAL CHIP	68	5%	1/16W
R573	1-216-807-11	METAL CHIP	68	5%	1/16W
R574	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R575	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R576	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R577	1-216-807-11	METAL CHIP	68	5%	1/16W
R578	1-216-807-11	METAL CHIP	68	5%	1/16W
R579	1-216-807-11	METAL CHIP	68	5%	1/16W
R580	1-216-807-11	METAL CHIP	68	5%	1/16W
R581	1-216-807-11	METAL CHIP	68	5%	1/16W
R582	1-216-807-11	METAL CHIP	68	5%	1/16W
R583	1-216-803-11	METAL CHIP	33	5%	1/16W
R584	1-216-803-11	METAL CHIP	33	5%	1/16W
R585	1-216-803-11	METAL CHIP	33	5%	1/16W
R586	1-216-803-11	METAL CHIP	33	5%	1/16W
R587	1-216-803-11	METAL CHIP	33	5%	1/16W
R588	1-216-833-11	METAL CHIP	10K	5%	1/16W
R590	1-216-801-11	METAL CHIP	22	5%	1/16W
R591	1-216-801-11	METAL CHIP	22	5%	1/16W
R597	1-216-833-11	METAL CHIP	10K	5%	1/16W
R601	1-216-803-11	METAL CHIP	33	5%	1/16W
R602	1-216-803-11	METAL CHIP	33	5%	1/16W
R603	1-216-833-11	METAL CHIP	10K	5%	1/16W
R616	1-216-801-11	METAL CHIP	22	5%	1/16W
R617	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R618	1-218-839-11	METAL GLAZE	470	0.50%	1/16W
R619	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R620	1-218-851-11	METAL GLAZE	1.5K	0.50%	1/16W
R621	1-216-821-11	METAL CHIP	1K	5%	1/16W
R622	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R623	1-216-801-11	METAL CHIP	22	5%	1/16W
R624	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R625	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R626	1-216-864-11	METAL CHIP	0	5%	1/16W
R628	1-216-833-11	METAL CHIP	10K	5%	1/16W
R629	1-216-833-11	METAL CHIP	10K	5%	1/16W
R633	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R634	1-216-807-11	METAL CHIP	68	5%	1/16W
R635	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R642	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R643	1-218-851-11	METAL GLAZE	1.5K	0.50%	1/16W
R645	1-216-845-11	METAL CHIP	100K	5%	1/16W
R650	1-216-841-11	METAL CHIP	47K	5%	1/16W
R651	1-216-841-11	METAL CHIP	47K	5%	1/16W
R653	1-216-845-11	METAL CHIP	100K	5%	1/16W
R654	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R655	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R666	1-216-807-11	METAL CHIP	68	5%	1/16W
R675	1-216-839-11	METAL CHIP	33K	5%	1/16W
R677	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R678	1-218-839-11	METAL GLAZE	470	0.50%	1/16W
R679	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R680	1-216-825-11	METAL CHIP	2.2K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R681	1-218-851-11	METAL GLAZE	1.5K	0.50%	1/16W
R682	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R683	1-218-839-11	METAL GLAZE	470	0.50%	1/16W
R684	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R685	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R686	1-216-833-11	METAL CHIP	10K	5%	1/16W
R687	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R688	1-216-849-11	METAL CHIP	220K	5%	1/16W
R689	1-216-856-11	METAL CHIP	820K	5%	1/16W
R690	1-216-833-11	METAL CHIP	10K	5%	1/16W
R691	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R692	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R693	1-216-857-11	METAL CHIP	1M	5%	1/16W
R694	1-216-857-11	METAL CHIP	1M	5%	1/16W
R701	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R702	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R703	1-216-821-11	METAL CHIP	1K	5%	1/16W
R704	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R705	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R706	1-216-809-11	METAL CHIP	100	5%	1/16W
R712	1-216-809-11	METAL CHIP	100	5%	1/16W
R713	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R714	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R715	1-216-837-11	METAL CHIP	22K	5%	1/16W
R721	1-216-809-11	METAL CHIP	100	5%	1/16W
R723	1-216-801-11	METAL CHIP	22	5%	1/16W
R725	1-216-801-11	METAL CHIP	22	5%	1/16W
R727	1-216-801-11	METAL CHIP	22	5%	1/16W
R731	1-216-833-11	METAL CHIP	10K	5%	1/16W
R736	1-216-801-11	METAL CHIP	22	5%	1/16W
R737	1-216-801-11	METAL CHIP	22	5%	1/16W
R738	1-216-801-11	METAL CHIP	22	5%	1/16W
R739	1-216-801-11	METAL CHIP	22	5%	1/16W
R740	1-216-801-11	METAL CHIP	22	5%	1/16W
R741	1-216-801-11	METAL CHIP	22	5%	1/16W
R742	1-216-833-11	METAL CHIP	10K	5%	1/16W
R743	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R744	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R745	1-216-849-11	METAL CHIP	220K	5%	1/16W
R746	1-216-833-11	METAL CHIP	10K	5%	1/16W
R747	1-216-833-11	METAL CHIP	10K	5%	1/16W
R748	1-216-833-11	METAL CHIP	10K	5%	1/16W
R749	1-216-833-11	METAL CHIP	10K	5%	1/16W
R750	1-216-833-11	METAL CHIP	10K	5%	1/16W
R751	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R752	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R753	1-216-833-11	METAL CHIP	10K	5%	1/16W
R754	1-216-851-11	METAL CHIP	330K	5%	1/16W
R755	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R757	1-216-837-11	METAL CHIP	22K	5%	1/16W
R758	1-218-827-11	METAL GLAZE	150	0.50%	1/16W
R759	1-218-864-11	METAL GLAZE	5.1K	0.50%	1/16W
R760	1-216-821-11	METAL CHIP	1K	5%	1/16W
R763	1-216-857-11	METAL CHIP	1M	5%	1/16W
R764	1-216-833-11	METAL CHIP	10K	5%	1/16W
R765	1-216-839-11	METAL CHIP	33K	5%	1/16W
R766	1-216-837-11	METAL CHIP	22K	5%	1/16W
R767	1-216-827-11	METAL CHIP	3.3K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R768	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R769	1-216-821-11	METAL CHIP	1K	5%	1/16W
R770	1-216-837-11	METAL CHIP	22K	5%	1/16W
R771	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R775	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R776	1-216-851-11	METAL CHIP	330K	5%	1/16W
R777	1-216-841-11	METAL CHIP	47K	5%	1/16W
R779	1-216-809-11	METAL CHIP	100	5%	1/16W
R780	1-216-821-11	METAL CHIP	1K	5%	1/16W
R781	1-216-837-11	METAL CHIP	22K	5%	1/16W
R785	1-216-857-11	METAL CHIP	1M	5%	1/16W
R787	1-216-821-11	METAL CHIP	1K	5%	1/16W
R788	1-216-839-11	METAL CHIP	33K	5%	1/16W
R789	1-216-819-11	METAL CHIP	680	5%	1/16W
R790	1-216-833-11	METAL CHIP	10K	5%	1/16W
R791	1-216-833-11	METAL CHIP	10K	5%	1/16W
R793	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R794	1-216-809-11	METAL CHIP	100	5%	1/16W
R795	1-216-857-11	METAL CHIP	1M	5%	1/16W
R796	1-216-833-11	METAL CHIP	10K	5%	1/16W
R797	1-216-833-11	METAL CHIP	10K	5%	1/16W
R798	1-216-839-11	METAL CHIP	33K	5%	1/16W
R799	1-216-819-11	METAL CHIP	680	5%	1/16W
R800	1-216-821-11	METAL CHIP	1K	5%	1/16W
R801	1-216-833-11	METAL CHIP	10K	5%	1/16W
R802	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R803	1-216-833-11	METAL CHIP	10K	5%	1/16W
R804	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R805	1-216-837-11	METAL CHIP	22K	5%	1/16W
R806	1-216-833-11	METAL CHIP	10K	5%	1/16W
R807	1-216-833-11	METAL CHIP	10K	5%	1/16W
R808	1-216-833-11	METAL CHIP	10K	5%	1/16W
R809	1-216-833-11	METAL CHIP	10K	5%	1/16W
R812	1-216-835-11	METAL CHIP	15K	5%	1/16W
R815	1-218-446-11	METAL CHIP	1	5%	1/16W
R816	1-218-446-11	METAL CHIP	1	5%	1/16W
R817	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R818	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R819	1-218-446-11	METAL CHIP	1	5%	1/16W
R820	1-218-446-11	METAL CHIP	1	5%	1/16W
R821	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R822	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R823	1-218-859-11	METAL GLAZE	3.3K	0.50%	1/16W
R824	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R825	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R826	1-216-845-11	METAL CHIP	100K	5%	1/16W
R827	1-216-845-11	METAL CHIP	100K	5%	1/16W
R828	1-218-851-11	METAL GLAZE	1.5K	0.50%	1/16W
R829	1-216-833-11	METAL CHIP	10K	5%	1/16W
R830	1-216-845-11	METAL CHIP	100K	5%	1/16W
R831	1-216-833-11	METAL CHIP	10K	5%	1/16W
R833	1-216-855-11	METAL CHIP	680K	5%	1/16W
R834	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R835	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R837	1-216-821-11	METAL CHIP	1K	5%	1/16W
R838	1-216-839-11	METAL CHIP	33K	5%	1/16W
R839	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R840	1-216-849-11	METAL CHIP	220K	5%	1/16W
R842	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R843	1-216-849-11	METAL CHIP	220K	5%	1/16W
R845	1-216-845-11	METAL CHIP	100K	5%	1/16W
R846	1-218-861-11	METAL GLAZE	3.9K	0.50%	1/16W
R847	1-218-862-11	METAL GLAZE	4.3K	0.50%	1/16W
R848	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R849	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R850	1-216-821-11	METAL CHIP	1K	5%	1/16W
R852	1-216-821-11	METAL CHIP	1K	5%	1/16W
R853	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R854	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R855	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R856	1-218-855-11	METAL GLAZE	2.2K	0.50%	1/16W
R857	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R858	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R859	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R860	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R861	1-216-798-11	METAL GLAZE	12	5%	1/16W
R862	1-216-797-11	METAL CHIP	10	5%	1/16W
R865	1-216-840-11	METAL CHIP	39K	5%	1/16W
R866	1-216-833-11	METAL CHIP	10K	5%	1/16W
R867	1-216-833-11	METAL CHIP	10K	5%	1/16W
R868	1-216-798-11	METAL GLAZE	12	5%	1/16W
R869	1-216-833-11	METAL CHIP	10K	5%	1/16W
R870	1-216-798-11	METAL GLAZE	12	5%	1/16W
R871	1-216-797-11	METAL CHIP	10	5%	1/16W
R872	1-216-864-11	METAL CHIP	0	5%	1/16W
R873	1-216-833-11	METAL CHIP	10K	5%	1/16W
R874	1-216-797-11	METAL CHIP	10	5%	1/16W
R875	1-216-833-11	METAL CHIP	10K	5%	1/16W
R876	1-216-797-11	METAL CHIP	10	5%	1/16W
R877	1-216-797-11	METAL CHIP	10	5%	1/16W
R878	1-216-797-11	METAL CHIP	10	5%	1/16W
R879	1-216-797-11	METAL CHIP	10	5%	1/16W
R880	1-216-833-11	METAL CHIP	10K	5%	1/16W
R881	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R882	1-216-841-11	METAL CHIP	47K	5%	1/16W
R883	1-216-797-11	METAL CHIP	10	5%	1/16W
R884	1-216-833-11	METAL CHIP	10K	5%	1/16W
R885	1-216-837-11	METAL CHIP	22K	5%	1/16W
R886	1-216-833-11	METAL CHIP	10K	5%	1/16W
R887	1-216-833-11	METAL CHIP	10K	5%	1/16W
R888	1-216-833-11	METAL CHIP	10K	5%	1/16W
R889	1-216-833-11	METAL CHIP	10K	5%	1/16W
R890	1-216-821-11	METAL CHIP	1K	5%	1/16W
R891	1-216-797-11	METAL CHIP	10	5%	1/16W
R892	1-216-797-11	METAL CHIP	10	5%	1/16W
R893	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R894	1-217-671-11	METAL CHIP	1	5%	1/10W
R895	1-216-854-11	METAL CHIP	560K	5%	1/16W
R896	1-216-839-11	METAL CHIP	33K	5%	1/16W
R897	1-217-671-11	METAL CHIP	1	5%	1/10W
R898	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R899	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R900	1-216-839-11	METAL CHIP	33K	5%	1/16W
R901	1-217-671-11	METAL CHIP	1	5%	1/10W
R902	1-216-841-11	METAL CHIP	47K	5%	1/16W
R903	1-216-833-11	METAL CHIP	10K	5%	1/16W
R904	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W

Ref. No.	Part No.	Description			Remark
R906	1-216-833-11	METAL CHIP	10K	5%	1/16W
R907	1-217-671-11	METAL CHIP	1	5%	1/10W
R909	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R910	1-216-839-11	METAL CHIP	33K	5%	1/16W
R911	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R912	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R913	1-216-839-11	METAL CHIP	33K	5%	1/16W
R914	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R918	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R919	1-216-821-11	METAL CHIP	1K	5%	1/16W
R920	1-218-859-11	METAL GLAZE	3.3K	0.50%	1/16W
R921	1-216-845-11	METAL CHIP	100K	5%	1/16W
R922	1-216-844-11	METAL CHIP	82K	5%	1/16W
R924	1-216-864-11	METAL CHIP	0	5%	1/16W
R925	1-216-845-11	METAL CHIP	100K	5%	1/16W
R926	1-216-864-11	METAL CHIP	0	5%	1/16W
R927	1-216-864-11	METAL CHIP	0	5%	1/16W
R928	1-216-833-11	METAL CHIP	10K	5%	1/16W
R929	1-218-272-11	METAL GLAZE	5.1K	5%	1/16W
R930	1-216-845-11	METAL CHIP	100K	5%	1/16W
R932	1-216-845-11	METAL CHIP	100K	5%	1/16W
R933	1-216-845-11	METAL CHIP	100K	5%	1/16W
R943	1-216-864-11	METAL CHIP	0	5%	1/16W
R944	1-216-821-11	METAL CHIP	1K	5%	1/16W
R947	1-216-801-11	METAL CHIP	22	5%	1/16W (Chinese,Hong Kong,Singapore)
R948	1-216-833-11	METAL CHIP	10K	5%	1/16W (Chinese,Hong Kong,Singapore)
R949	1-216-833-11	METAL CHIP	10K	5%	1/16W (Chinese,Hong Kong,Singapore)
R950	1-216-833-11	METAL CHIP	10K	5%	1/16W (Chinese,Hong Kong,Singapore)
R967	1-216-801-11	METAL CHIP	22	5%	1/16W (Chinese,Hong Kong,Singapore)
R968	1-216-801-11	METAL CHIP	22	5%	1/16W (Chinese,Hong Kong,Singapore)
R969	1-218-873-11	METAL GLAZE	12K	0.50%	1/16W
R970	1-216-849-11	METAL CHIP	220K	5%	1/16W
R971	1-216-864-11	METAL CHIP	0	5%	1/16W
R972	1-216-845-11	METAL CHIP	100K	5%	1/16W
R973	1-216-864-11	METAL CHIP	0	5%	1/16W
R983	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R984	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R985	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R986	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R987	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R988	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R989	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)
R990	1-216-864-11	METAL CHIP	0	5%	1/16W (US,Canadian)

Ref. No.	Part No.	Description				Remark
R991	1-216-864-11	METAL CHIP	0	5%	1/16W	(US,Canadian)
R992	1-216-864-11	METAL CHIP	0	5%	1/16W	(US,Canadian)
R994	1-216-809-11	METAL CHIP	100	5%	1/16W	(Chinese,Hong Kong,Singapore)
R995	1-216-809-11	METAL CHIP	100	5%	1/16W	(Chinese,Hong Kong,Singapore)
R996	1-216-833-11	METAL CHIP	10K	5%	1/16W	(Chinese,Hong Kong,Singapore)
R997	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R998	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R999	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
		< CONPOSITION CIRCUIT BLOCK >				
* RB280	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB281	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB282	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB283	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB284	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB285	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB286	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB287	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB288	1-233-270-11	NETWORK, RES (8 GANG) 10K				
* RB289	1-233-270-11	NETWORK, RES (8 GANG) 10K				
		< VARIABLE RESISTOR >				
RV001	1-238-663-11	RES, ADJ, CARBON 4.7K				
RV479	1-238-663-11	RES, ADJ, CARBON 4.7K				
		< RESISTOR >				
RZ005	1-216-801-11	METAL CHIP	22	5%	1/16W	
RZ020	1-216-833-11	METAL CHIP	10K	5%	1/16W	
RZ021	1-216-836-11	METAL CHIP	18K	5%	1/16W	(US,Canadian)
RZ021	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	(Chinese)
RZ021	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	(Hong Kong,Singapore)
RZ031	1-216-817-11	METAL CHIP	470	5%	1/16W	
RZ032	1-216-821-11	METAL CHIP	1K	5%	1/16W	
RZ033	1-216-817-11	METAL CHIP	470	5%	1/16W	
RZ034	1-216-817-11	METAL CHIP	470	5%	1/16W	
RZ035	1-216-821-11	METAL CHIP	1K	5%	1/16W	
RZ036	1-216-821-11	METAL CHIP	1K	5%	1/16W	
RZ038	1-216-821-11	METAL CHIP	1K	5%	1/16W	
RZ039	1-216-817-11	METAL CHIP	470	5%	1/16W	
RZ040	1-216-821-11	METAL CHIP	1K	5%	1/16W	
RZ053	1-216-841-11	METAL CHIP	47K	5%	1/16W	
RZ054	1-216-833-11	METAL CHIP	10K	5%	1/16W	
RZ055	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
RZ061	1-216-843-11	METAL CHIP	68K	5%	1/16W	
RZ062	1-216-805-11	METAL CHIP	47	5%	1/16W	
RZ063	1-216-805-11	METAL CHIP	47	5%	1/16W	
RZ064	1-216-805-11	METAL CHIP	47	5%	1/16W	
RZ065	1-216-833-11	METAL CHIP	10K	5%	1/16W	
RZ066	1-216-841-11	METAL CHIP	47K	5%	1/16W	(Hong Kong)
		< THERMISTOR >				
TH001	1-810-814-21	THERMISTOR, NTC (1608)				
TH002	1-810-814-21	THERMISTOR, NTC (1608)				
		< VIBRATOR >				
X001	1-767-402-21	VIBRATOR, CRYSTAL (22.5792MHz)				
X002	1-767-399-11	VIBRATOR, CRYSTAL (24.576MHz)				
X003	1-767-401-11	VIBRATOR, CRYSTAL (27MHz)				
X004	1-578-689-21	VIBRATOR (8MHz)				
X090	1-760-655-41	VIBRATOR, CRYSTAL (20MHz)				
X280	1-767-474-21	OSCILLATOR, CRYSTAL (66MHz)				
*	A-6065-056-A	PS-408 BOARD, COMPLETE (US,Canadian)				
*	A-6065-044-A	PS-413 BOARD, COMPLETE (Chinese,Hong Kong,Singapore)				
		********** (Ref.No. 2,000 Series)				
	1-533-223-11	HOLDER, FUSE				
		< CAPACITOR >				
C902	1-104-705-11	FILM	0.1uF	20%	250V	
C952	1-126-942-61	ELECT	1000uF	20%	25V	
C954	1-126-964-11	ELECT	10uF	20%	50V	
C955	1-126-964-11	ELECT	10uF	20%	50V	
C956	1-126-960-11	ELECT	1uF	20%	50V	
		< CONNECTOR >				
CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P				
CN902	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P				
* CN954	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< DIODE >				
⚠D951	8-719-200-82	DIODE 11ES2				
⚠D952	8-719-200-82	DIODE 11ES2				
⚠D953	8-719-200-82	DIODE 11ES2				
⚠D954	8-719-200-82	DIODE 11ES2				
D956	8-719-911-19	DIODE 1SS119				
D957	8-719-911-19	DIODE 1SS119				
		< FUSE >				
⚠F901	1-532-743-11	FUSE, GLASS TUBE (2A/125V)(US,Canadian)				
⚠F901	1-532-203-11	FUSE, TIME-LAG (T2AL/250V) (Chinese,Hong Kong,Singapore)				
		< TERMINAL >				
* ET951	1-537-738-21	TERMINAL, EARTH				
		< FILTER >				
FL951	1-233-893-21	FILTER, CHIP EMI				
FL952	1-233-893-21	FILTER, CHIP EMI				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description	Remark
		< IC >	
IC951	8-759-708-05	IC NJM78L05A	
		< LINE FILTER >	
⚠LF901	1-416-446-11	FILTER, LINE	
		< TRANSISTOR >	
Q951	8-729-421-19	TRANSISTOR UN2213	
Q952	8-729-424-46	TRANSISTOR UN211E	
		< RESISTOR >	
R951	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R952	1-216-089-91	METAL GLAZE 47K 5%	1/10W
		< TRANSFORMER >	
⚠T901	1-429-784-11	TRANSFORMER, POWER (US,Canadian)	
⚠T901	1-431-593-11	TRANSFORMER, POWER (Chinese,Hong Kong,Singapore)	
*	A-6065-058-A	PW-116 BOARD, COMPLETE (US,Canadian)	
*	A-6065-046-A	PW-117 BOARD, COMPLETE (Chinese,Hong Kong,Singapore)	
		**********	
		(Ref.No. 4,000 Series)	
		< CAPACITOR >	
C151	1-126-154-11	ELECT 47uF 20%	6.3V
		< DIODE >	
D151	8-719-404-49	DIODE MA111	
D152	8-719-404-49	DIODE MA111	
D153	8-719-981-49	LED GL3ED8 (ON/STANDBY)	
		< IC >	
IC151	8-749-011-22	IC GP1U27X	
		< COIL >	
L151	1-412-031-11	INDUCTOR CHIP 47uH	
		< TRANSISTOR >	
Q151	8-729-424-08	TRANSISTOR UN2111	
		< RESISTOR >	
R151	1-247-815-91	CARBON 220 5%	1/4W
R152	1-249-415-11	CARBON 680 5%	1/4W
R154	1-216-081-00	METAL CHIP 22K 5%	1/10W
		< SWITCH >	
S151	1-762-365-21	SWITCH, TACTILE (POWER)	
S153	1-762-365-21	SWITCH, TACTILE (SET UP MENU)	

Ref. No.	Part No.	Description	Remark
*	A-6065-052-A	TT-40 BOARD, COMPLETE	
		**********	
		(Ref.No. 3,000 Series)	
		< CAPACITOR >	
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C002	1-128-004-11	ELECT CHIP 10uF 20%	16V
C014	1-128-004-11	ELECT CHIP 10uF 20%	16V
C015	1-128-004-11	ELECT CHIP 10uF 20%	16V
C020	1-128-004-11	ELECT CHIP 10uF 20%	16V
C025	1-128-004-11	ELECT CHIP 10uF 20%	16V
C026	1-128-004-11	ELECT CHIP 10uF 20%	16V
C027	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C028	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C029	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C030	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C031	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C032	1-128-004-11	ELECT CHIP 10uF 20%	16V
C033	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C035	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C036	1-128-004-11	ELECT CHIP 10uF 20%	16V
C037	1-128-004-11	ELECT CHIP 10uF 20%	16V
C038	1-164-739-11	CERAMIC CHIP 560PF 5%	50V
C039	1-128-004-11	ELECT CHIP 10uF 20%	16V
C040	1-128-004-11	ELECT CHIP 10uF 20%	16V
C041	1-128-004-11	ELECT CHIP 10uF 20%	16V
C042	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C043	1-164-172-11	CERAMIC CHIP 0.0056uF 10%	25V
C044	1-164-172-11	CERAMIC CHIP 0.0056uF 10%	25V
C045	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C046	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C047	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C048	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C049	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C050	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V
C051	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C052	1-164-677-11	CERAMIC CHIP 0.033uF 10%	16V
C053	1-164-677-11	CERAMIC CHIP 0.033uF 10%	16V
C054	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C055	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C056	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V
C057	1-164-217-11	CERAMIC CHIP 150PF 5%	50V
C058	1-162-962-11	CERAMIC CHIP 470PF 10%	50V
C059	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C060	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C061	1-128-004-11	ELECT CHIP 10uF 20%	16V
C062	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C063	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C068	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C073	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C074	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C075	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C076	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C077	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C078	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V

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Ref. No.	Part No.	Description			Remark
C079	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C080	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C085	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C086	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C087	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C088	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C089	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C090	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
		< CONNECTOR >			
CN001	1-779-342-21	CONNECTOR, FFC/FPC 42P			
* CN002	1-695-154-11	SOCKET, CONNECTOR 18P			
* CN003	1-764-895-21	SOCKET, CONNECTOR 10P			
CN004	1-580-055-21	PIN, CONNECTOR 2P			
CN005	1-779-341-11	CONNECTOR, FFC/FPC 23P			
CN006	1-779-341-11	CONNECTOR, FFC/FPC 23P			
CN007	1-779-341-11	CONNECTOR, FFC/FPC 23P			
		< DIODE >			
D001	8-719-404-49	DIODE MA111			
D002	8-719-404-49	DIODE MA111			
D003	8-719-421-27	DIODE MA728			
		< IC >			
IC001	8-759-449-56	IC SSI33P3720			
IC002	8-752-069-93	IC CXA1791M-T6			
IC003	8-759-701-39	IC NJM3404AM			
IC004	8-759-062-66	IC TC7S66F(TE85R)			
		< COIL >			
L001	1-412-031-11	INDUCTOR CHIP	47uH		
L002	1-412-031-11	INDUCTOR CHIP	47uH		
L003	1-412-031-11	INDUCTOR CHIP	47uH		
		< PHOTO INTERRUPTER >			
PH001	8-749-011-97	PHOTO INTERUPTER GP1S93			
		< TRANSISTOR >			
Q001	8-729-420-24	TRANSISTOR	2SB1218A-QRS		
Q002	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q003	8-729-903-46	TRANSISTOR	2SB1132-T100-QR		
Q004	8-729-903-46	TRANSISTOR	2SB1132-T100-QR		
Q005	8-729-903-46	TRANSISTOR	2SB1132-T100-QR		
Q007	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q008	8-729-015-76	TRANSISTOR	UN5211-TX		
Q009	8-729-230-63	TRANSISTOR	2SC4116-YG		
		< RESISTOR >			
R001	1-216-809-11	METAL CHIP	100	5%	1/16W
R002	1-211-992-11	METAL GLAZE	91	0.50%	1/16W
R005	1-216-815-11	METAL CHIP	330	5%	1/16W
R006	1-216-841-11	METAL CHIP	47K	5%	1/16W
R007	1-216-833-11	METAL CHIP	10K	5%	1/16W
R008	1-216-810-11	METAL CHIP	120	5%	1/16W
R009	1-216-810-11	METAL CHIP	120	5%	1/16W
R010	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R017	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R027	1-216-154-00	METAL GLAZE	15	5%	1/8W

Ref. No.	Part No.	Description			Remark
R028	1-216-821-11	METAL CHIP	1K	5%	1/16W
R029	1-216-797-11	METAL CHIP	10	5%	1/16W
R030	1-216-817-11	METAL CHIP	470	5%	1/16W
R034	1-218-348-11	METAL GLAZE	110K	5%	1/16W
R035	1-218-348-11	METAL GLAZE	110K	5%	1/16W
R036	1-216-154-00	METAL GLAZE	15	5%	1/8W
R037	1-216-856-11	METAL CHIP	820K	5%	1/16W
R038	1-216-856-11	METAL CHIP	820K	5%	1/16W
R039	1-216-820-11	METAL CHIP	820	5%	1/16W
R040	1-216-797-11	METAL CHIP	10	5%	1/16W
R041	1-216-837-11	METAL CHIP	22K	5%	1/16W
R042	1-216-837-11	METAL CHIP	22K	5%	1/16W
R044	1-216-845-11	METAL CHIP	100K	5%	1/16W
R045	1-216-864-11	METAL CHIP	0	5%	1/16W
R046	1-216-845-11	METAL CHIP	100K	5%	1/16W
R047	1-216-834-11	METAL CHIP	12K	5%	1/16W
R048	1-216-851-11	METAL CHIP	330K	5%	1/16W
R049	1-216-833-11	METAL CHIP	10K	5%	1/16W
R050	1-216-817-11	METAL CHIP	470	5%	1/16W
R051	1-216-833-11	METAL CHIP	10K	5%	1/16W
R052	1-218-872-11	METAL GLAZE	11K	0.50%	1/16W
R053	1-218-859-11	METAL GLAZE	3.3K	0.50%	1/16W
R054	1-216-837-11	METAL CHIP	22K	5%	1/16W
R055	1-216-821-11	METAL CHIP	1K	5%	1/16W
R056	1-216-857-11	METAL CHIP	1M	5%	1/16W
R057	1-216-864-11	METAL CHIP	0	5%	1/16W
R062	1-216-815-11	METAL CHIP	330	5%	1/16W
R063	1-216-809-11	METAL CHIP	100	5%	1/16W
R064	1-216-833-11	METAL CHIP	10K	5%	1/16W
R065	1-216-833-11	METAL CHIP	10K	5%	1/16W
R068	1-216-809-11	METAL CHIP	100	5%	1/16W
R070	1-216-821-11	METAL CHIP	1K	5%	1/16W
R071	1-216-841-11	METAL CHIP	47K	5%	1/16W
R075	1-216-814-11	METAL CHIP	270	5%	1/16W
R078	1-216-833-11	METAL CHIP	10K	5%	1/16W
R088	1-216-837-11	METAL CHIP	22K	5%	1/16W
R091	1-216-841-11	METAL CHIP	47K	5%	1/16W
R092	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R093	1-216-845-11	METAL CHIP	100K	5%	1/16W
R095	1-216-853-11	METAL CHIP	470K	5%	1/16W
R096	1-216-851-11	METAL CHIP	330K	5%	1/16W
R097	1-216-837-11	METAL CHIP	22K	5%	1/16W
R098	1-216-821-11	METAL CHIP	1K	5%	1/16W
R099	1-216-837-11	METAL CHIP	22K	5%	1/16W
R100	1-216-837-11	METAL CHIP	22K	5%	1/16W
R102	1-216-809-11	METAL CHIP	100	5%	1/16W
R103	1-216-809-11	METAL CHIP	100	5%	1/16W
R104	1-216-809-11	METAL CHIP	100	5%	1/16W
R105	1-216-809-11	METAL CHIP	100	5%	1/16W
R106	1-216-809-11	METAL CHIP	100	5%	1/16W
R107	1-216-809-11	METAL CHIP	100	5%	1/16W
R108	1-216-809-11	METAL CHIP	100	5%	1/16W
R109	1-216-809-11	METAL CHIP	100	5%	1/16W
R111	1-216-809-11	METAL CHIP	100	5%	1/16W
R112	1-216-809-11	METAL CHIP	100	5%	1/16W
R113	1-216-809-11	METAL CHIP	100	5%	1/16W
R114	1-216-809-11	METAL CHIP	100	5%	1/16W
R115	1-216-809-11	METAL CHIP	100	5%	1/16W
R116	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R117	1-216-809-11	METAL CHIP	100	5%	1/16W
R118	1-216-809-11	METAL CHIP	100	5%	1/16W
R124	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R125	1-216-849-11	METAL CHIP	220K	5%	1/16W
R126	1-216-839-11	METAL CHIP	33K	5%	1/16W
R128	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S001	1-771-046-11	SWITCH, PUSH LEVER (TRAY)			
⚠	1-468-199-11	SR-740 BOARD (Ref.No. 5,000 Series) (Include SUB BOARD) (US, Canadian) **********			
		< CAPASITOR >			
C105	9-939-926-01	ELECT	330uF		250V
C112	1-126-968-51	ELECT	100uF		50V
C201	1-126-798-11	ELECT	2200uF		10V
C202	1-126-960-51	ELECT	1uF		50V
C203	1-126-926-11	ELECT	1000uF	20%	10V
C204	1-126-798-11	ELECT	2200uF		10V
C206	9-933-770-01	ELECT	1000uF		16V
C207	1-126-935-11	ELECT	470uF	20%	16V
C209	9-933-770-01	ELECT	1000uF		16V
C210	1-126-935-11	ELECT	470uF	20%	16V
		< DIODE >			
⚠D101	8-719-510-19	DIODE D2SBA60			
D102	8-710-160-74	DIODE RD22FB			
D104	9-900-534-01	DIODE ERA18-02			
D106	9-900-514-01	DIODE MA165			
D107	8-719-030-25	DIODE EG01C			
D201	8-719-310-55	DIODE FMB24L			
D202	8-719-035-04	DIODE MA4240			
D203	9-909-291-01	DIODE S3L20U			
D205	9-909-291-01	DIODE S3L20U			
		< IC >			
⚠IC101	8-759-387-65	IC FA5317 (SUB)			
⚠IC201	9-900-532-01	IC AN1431T			
		< PHOTO CUPPLER >			
PC101	9-900-518-01	CUPPLER, PHOTO PC817			
PC102	9-900-518-01	CUPPLER, PHOTO PC817			
		< TRANSISTOR >			
⚠Q101	9-939-924-01	TRANSISTOR 2SK2662			
⚠Q102	8-729-920-70	TRANSISTOR 2SC1740			
		< RESISTOR >			
R106	1-216-031-11	METAL CHIP	180		1/10W
R204	9-936-251-01	CARBON	2.2K		1/4W

Ref. No.	Part No.	Description			Remark
		< VARIABLE RESISTOR >			
VR201	9-939-928-01	RESISTOR,VARIABLE 500			
⚠	1-468-200-11	SR-745 BOARD (Ref.No. 6,000 Series) (Include SUB BOARD) (Chinese, Hong Kong, Singapore) **********			
		< CAPASITOR >			
C105	9-939-933-01	ELECT	100uF		400V
C112	1-126-968-51	ELECT	100uF		50V
C201	1-126-798-11	ELECT	2200uF		10V
C202	1-126-960-51	ELECT	1uF		50V
C203	1-126-926-11	ELECT	1000uF	20%	10V
C204	1-126-798-11	ELECT	2200uF		10V
C206	9-933-770-01	ELECT	1000uF		16V
C207	1-126-935-11	ELECT	470uF	20%	16V
C209	9-933-770-01	ELECT	1000uF		16V
C210	1-126-935-11	ELECT	470uF	20%	16V
		< DIODE >			
⚠D101	8-719-510-19	DIODE D2SBA60			
D102	8-710-160-74	DIODE RD22FB			
D104	9-900-534-01	DIODE ERA18-02			
D106	9-900-514-01	DIODE MA165			
D107	8-719-030-25	DIODE EG01C			
D201	8-719-310-55	DIODE FMB24L			
D202	8-719-035-04	DIODE MA4240			
D203	9-909-291-01	DIODE S3L20U			
D205	9-909-291-01	DIODE S3L20U			
		< IC >			
⚠IC101	8-759-387-65	IC FA5317 (SUB)			
⚠IC201	9-900-532-01	IC AN1431T			
		< PHOTO CUPPLER >			
PC101	9-904-180-01	CUPPLER, PHOTO PC120			
PC102	9-904-180-01	CUPPLER, PHOTO PC120			
		< TRANSISTOR >			
⚠Q101	9-936-231-01	TRANSISTOR 2SK1535			
⚠Q102	8-729-920-70	TRANSISTOR 2SC1740			
		< RESISTOR >			
R106	1-216-031-11	METAL CHIP	180		1/4W
R113	1-260-304-71	CARBON	10		1/2W
R203	9-936-251-01	CARBON	2.2K		1/4W
R204	9-936-251-01	CARBON	2.2K		1/4W
		< VARIABLE RESISTOR >			
VR201	9-939-936-01	RESISTOR,VARIABLE 500			

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MISCELLANEOUS
****

108	1-782-867-11	CABLE, FLEXIBLE FLAT (FTT-4) 13P
109	1-782-191-11	CABLE, FLEXIBLE FLAT (FTM-3)
111	1-782-193-11	CABLE, FLEXIBLE FLAT (FAM-5)
112	1-782-865-11	CABLE, FLEXIBLE FLAT (FAM-6) 20P
⚠207	8-820-005-02	OPTICAL PICK-UP KHS-180A/J1N
217	8-749-013-33	IC KU160 (CD SENSOR)
⚠CNP901	1-690-609-81	CORD, POWER (US, Canadian)
⚠CNP901	1-751-673-31	CORD, AC POWER (Hong Kong)
⚠CNP901	1-782-510-11	CORD, POWER (Chinese)
⚠CNP901	1-782-960-11	CORD, POWER (Singapore)
⚠F901	1-532-743-11	FUSE, GLASS TUBE (2A/125V)(US, Canadian)
⚠F901	1-532-203-00	FUSE, TIME-LAG (T2AL/250V) (Chinese, Hong Kong, Singapore)
M501	X-3947-137-1	MOTOR ASSY, SLED
M901	1-698-944-11	MOTOR, DC (SPINDLE)
M902	X-3947-138-1	MOTOR ASSY, SKEW
M903	1-698-942-21	MOTOR (LOADING)

****
HARDWARE LIST
****

#1	7-685-885-09	SCREW +BVTT 4X16 (S)
#2	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3
#4	7-685-659-79	SCREW +BVTP 4X8 TYPE2 IT-3
#7	7-627-852-08	SCREW, PRECISION +P 1.7X2.5
#8	7-685-105-19	TPG +P 2X8, TYPE 2, NON-SLIT
#9	7-627-852-17	+P 1.7X4

ACCESSORIES & PACKING MATERIALS
****

	1-475-086-31	COMMANDER, STANDARD (RMT-D100E) (Chinese, Hong Kong, Singapore)
	1-475-086-51	COMMANDER, STANDARD (RMT-D100U) (US, Canadian)
	1-575-334-11	CORD, CONNECTION (STEREO AV CABLE 1.5m) (Chinese, Hong Kong, Singapore)
	1-575-335-21	CORD, CONNECTION (S-VIDEO CABLE 1.5m)
	1-782-997-11	CORD, CONNECTION (STEREO AV S LINK CABLE 1.5m) (US, Canadian)
*	3-694-922-01	SHEET, PROTECTION
	3-861-127-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH) (US, Canadian)
	3-861-127-21	MANUAL, INSTRUCTION (ENGLISH,CHINESE) (Singapore)
	3-861-127-31	MANUAL, INSTRUCTION (ENGLISH,CHINESE) (Chinese)
	3-861-127-41	MANUAL, INSTRUCTION (ENGLISH,CHINESE) (Hong Kong)
*	3-977-720-01	CUSHION
*	3-979-420-01	INDIVIDUAL CARTON (US, Canadian)
*	3-979-420-11	INDIVIDUAL CARTON (Singapore)
*	3-979-420-21	INDIVIDUAL CARTON (Chinese)
*	3-979-420-31	INDIVIDUAL CARTON (Hong Kong)
	9-939-686-01	LID, BATTERY CASE (for RMT-D100E/D100U)

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Home A&V Products Company

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